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USSR Report

AGRICULTURE

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MAJOR CROP PROGRESS AND WEATHER REPORTING

PREPARATIONS FOR SPRING SOWING

Moscow PRAVDA in Russian 14 Mar 84 p 1

[Article by M. Odinetsk, PRAVDA correspondent, Kiev: "On the Eve of Sowing"]

[Text] With each passing day it is more and more obvious that it is spring. Although cold winds are still blowing, in the southern oblasts of the republic field work has already begun.

The weather conditions last fall were unfavorable. In a number of places they did not allow us to produce good winter crop shoots. This is why the volume of spring field work will increase significantly this year. A portion of winter crops will have to be resown with spring crops. Has everything been done in order to complete sowing operations in an organized manner, to raise a large harvest, to replenish possible underproduction by means of spring crops and to successfully complete the tasks of the fourth year of the five-year plan? This was the question your correspondent asked of the first deputy chairman of the Ukrainian SSR Council of Ministers and committee chairman of on questions of the agro-industrial complex within the presidium of the republic's council of ministers, Yu. A. Kolomiyts. Here is what he said:

"The concerns of the coming spring and of implementing the Food Program will not for a minute be ignored by kolkhoz and sovkhoz workers and by all workers in the republic's agro-industrial complex. As we know, recent years have been difficult ones for Ukrainian agriculture. The state was undersupplied with a significant quantity of products.

We have been given the task of maximally curtailing and where possible, eliminating, debts and of securing a significant growth in the production and procurement of grains and other crops.

What is being done to achieve the aforementioned goal? In kolkhozes and sovkhozes the structure of sowing area has been worked out with a consideration of soil and climatic conditions and scientifically-based crop rotations. Most attention is directed at increasing grain production. Winter crops were sown after the best predecessors. Sowing is done using first class seed with the simultaneous application of fertilizer. There was late-fall plowing of all spring fields and seed has been brought up to a high sowing condition.

In order to compensate for the possible underproduction of winter crops enterprises are making the structure of spring fields more precise. In places where resowing is necessary this will be done with corn as one of the more productive crops, as well as with barley and peas. The area in corn for grain is to be increased to 2.6 million hectares. On 1.8 million hectares corn will be cultivated according to industrial technology. The area in early-maturing hybrids will almost double. This entire complex of organizational and agrotechnical measures will enable us, in our opinion, to produce an average of 37-38 quintals of corn grain per hectare and to significantly increase its gross yield.

We supported the initiative of grain farmers in Dnepropetrovsk Oblast, who this year took on the obligation of producing 1 million tons of corn grain. On their initiative the enterprises of Kirovograd, Odessa, Kherson, Nikolayev and Zaporozhye oblasts are increasing the area in corn significantly.

The republic's beet farmers are preparing for sowing conscientiously. They have decided to cultivate an average of 322 quintals of roots and to produce 32-33 quintals of sugar per hectare. They are up to this task. The essential foundation for the harvest has been developed, after all. On all fields deep plowing was completed early and fertilizer was applied.

In preparing for field work, many enterprises adjusted sowing machines well and are completing the repair of tractors and reclamation systems. Mineral fertilizers, means for protecting plants and fuel have been stored.

At the same time, an inspection in kolkhozes and sovkhozes brought out some serious shortcomings. Thus, some of the enterprises of Zaporozhye, Donetsk and Odessa oblasts have poor supplies of first class seed. Little first class sowing material has been prepared in some enterprises of UkSSR Minzag [Ministry of Procurement] as well as in the associations of Ukrsortsemovoshch [Ukrainian quality vegetable seed association]. Preparations for the irrigation season are proceeding slowly in Nikolayev, Odessa and a number of other oblasts and the republic's water resources ministry, agricultural ministry and agricultural equipment association are not rendering the necessary aid in the repair of hydrotechnical structures and pumping-power equipment. The enterprises of the agricultural equipment association in Dnepropetrovsk, Rovno and Sumy oblasts tolerate a low quality of machine repairs. In a number of enterprises of Voroshilovgrad, Zaporozhye, Kharkov and Kherson oblasts there was no proper concern for the training of machine operators. Now these shortcomings are being eliminated through the efforts of local party organs and RAPO soviets.

An accelerated pace and improved quality of field work will be facilitated by progressive methods for organizing and reimbursing labor. We are striving to have the experience of leaders who have achieved the best end results assimilated more rapidly by all farmers. Last year, for example, 13,000 brigades and links worked according to the method of collective contracts. This year this form of labor organization will be further expanded in kolkhozes and sovkhozes.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

SPRING SOWING PREPARATIONS IN ODESSA OBLAST

Moscow SEL'SKAYA ZHIZN' in Russian 5 Apr 84 p 1

[Article by A. Soldatskiy, Odessa Oblast: "Sowing Pace"]

[Excerpts] Several days ago I had the opportunity to travel the roads of the region around the Danube. On the northern slopes and in forested areas snow was still on the ground and it was impossible to go into the fields because your feet would sink in the mud.

Here everyone knows the value of moisture; they have learned to efficiently utilize each millimeter for the good of the harvest.

"There are many areas where the land was cultivated and levelled during the winter in every rayon--several thousand hectares," emphasizes the secretary of the Odessa Oblast committee of the Ukrainian CP, M. G. Galich. "This allows enterprises to immediately begin sowing early crops. In places where rape and feed mixtures were sown in the winter shoots are already beginning to appear."

Yes, in the winter many kolkhozes and sovkhozes utilize good weather days efficiently.

The ability to utilize good weather for the preparation of the soil at any time of year is an important aspect of the strategy of farmers in this region. This greatly influences the success of spring work and this means also of the harvest. This is especially true today, as time goes by. Whereas regularly by April the sowing of early crops is being completed, this year it is just beginning. A great deal must be sown--early grains alone will occupy 455,000 hectares, and then it will be time to sow corn on an area of 500,000 hectares.

"This is why we must account for the time by the hour," emphasizes G. A. Bondarenko, first secretary of the Tatarbunarskiy Rayon party committee. "Otherwise we would not be able to deal with the sowing schedule for sunflowers and corn, which will occupy 37,000 hectares. There are also the feed group, vegetables and other late crops. Work continues on a 24-hour basis--day and night."

In the region 30 broad sowing units have been prepared and many of these are used to cultivate late-fall plowed fields and for harrowing. I was introduced

to an innovation--an improved plowshare for the SUB-48 sower. We know that regular plowshares sow seed in two rows. Agronomists have determined that with this type of distribution of plants the area is improperly used nutritionally--in the rows the density of plants is high, but between them there is room for weeds. It was decided to conduct sowing according to the continuous method.

The Odessa steppe has awakened from the Danube to the Southern Bug and from the Black Sea to Vinnitsa Oblast. The struggle for the 1984 harvest is proceeding along a broad front.

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BRIEFS

UNIFIED SCHEDULE--Berezovka, Odessa Oblast, 23 Mar (TASS)--The farmers of Berezovskiy Rayon, Odessa Oblast, are sowing early spring crops according to compact work schedules developed with a consideration of the special features of the current spring. The RAPO [Rayon agricultural production association] coordinates operations. The front of sowing operations in enterprises here stretches for almost 160 kilometers. Working at the same pace as grain farmers are repair workers, agrochemists and transportation workers. Problems that surface can be solved immediately due to the formation of a dispatcher service by spring. Each morning all enterprises and their partners in the agro-industrial complex come out jointly. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 24 Mar 84 p 1] 8228

SOWING BEGINS--Odessa, 30 Mar--Farmers have grown tired of waiting for the coming of spring this year, but winter still did not want to give up. But in the south it finally grew warm. Machine operators of Tatarbunarskiy, Artsizskiy, Izmail'skiy and other rayons have brought soil-cultivation and sowing units into the fields in unison. Stubble sowers are used widely in the oblast's enterprises in order to curtail sowing time. There where circumstances allow, work is proceeding day and night. Farmers are giving special significance to high quality sowing and to implementing agrotechnical measures that preserve moisture. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 31 Mar 84 p 1] 8228

LATE SPRING--Spring was late this year in Odessa Oblast. In late March it became warmer and the sun appeared. Farmers were ready to begin sowing spring crops, but suddenly thick fogs and frosts appeared. Again it was necessary to wait. [Text] [Moscow TRUD in Russian 8 Apr 84 p 1] 8228

MOISTURE RETENTION--Dnepropetrovsk--Only broad units are being utilized to retain moisture in the soil by farmers of the Dniepr area. Caterpillar technology is working in the fields in two shifts. [Text] [Moscow TRUD in Russian 22 Mar 84 p 1] 8228

FERTILIZER TOP-DRESSING--Cherkassy--The top-dressing of crops is being completed at a rapid pace in Cherkassy Oblast. Fertilizer is applied from the air as well as by means of land methods with the aid of broad units. Nutrients are applied daily on 10,000-12,000 hectares of plowland. [Text] [Moscow TRUD in Russian 24 Mar 84 p 1] 8228

PROGRAMMED HARVESTS--Lvov--The lands in the foothills of the Ukrainian Carpathians, which were previously unproductive, are being transformed into a zone of programmed harvests. Specialists of the oblast agro-industrial association, together with scientists, have completed the development of agro-chemical data sheets for the fields of all enterprises. The recommendations are used by farmers during spring field work. [Text] [Moscow TRUD in Russian 2 Mar 84 p 1] 8228

SEED READIED--Lvov--Seed prepared by means of industrial technology will be sown this year in the grain fields of the Transcarpathians. Specialized technical complexes have completed the preparation of sowing material for delivery to enterprises. [Text] [Moscow TRUD in Russian 3 Apr 84 p 1] 8228

WINTER CROP TOP-DRESSING--Kiev, 27 Mar--This spring has painted a variegated picture in the republic's fields. In the Crimea and in a number of southern rayons of Zaporozhye, Kherson and Transcarpathian oblasts farmers are already conducting selective sowing of early grain crops whereas in Vinnitsa, Zhitomir, Kiev and a number of western oblasts snow is still on the ground and soil is covered by frost at night. But village workers are proceeding with the top-dressing of winter crops everywhere. In the northwest and central regions this is being done on frozen ground; in the south--by means of the radical method. In places where there is little moisture this work was begun earlier than usual. Aviation workers have come to the aid of farmers. Today 400 planes and 40 helicopters are involved in top-dressing from the air. They have applied fertilizer to the first million hectares of winter crops. In the southern steppe of the republic the fields for strong and valuable wheats were determined in the fall. These fields receive priority top-dressing. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 28 Mar 84 p 1] 8228

TOP-DRESSING COMPLETED--Khar'kov--Top-dressing of winter crops has been completed on the entire planned area--200,000 hectares. [Text] [Moscow TRUD in Russian 30 Mar 84 p 1] 8228

IRRIGATION SEASON BEGINS--Zaporozh'ye--The first in the oblast to open the irrigation season were the farmers of Akimovskiy and Kamensko-Dneprovskiy rayons. Here fields in winter wheat and perennial grasses and those earmarked for spring crops are being irrigated. [Text] [Moscow TRUD in Russian 1 Apr 84 p 1] 8228

SHORTENED SOWING SCHEDULE--Rovno, 6 Apr--Grain farmers of the 17 Sentyabrya Kolkhoz were the first in Chernoarmeyskiy Rayon to complete the sowing of annual grasses. The sowing of early spring grains is beginning. According to technological maps seed will be sown in 90 hours. Time can be saved by using broad equipment and by introducing double shifts. The enterprises of Mlinovskiy, Goshchanskiy and Ostrozhskiy rayons are also sowing early grains. In the northern zone of the oblast flax farmers have taken sowing units into the fields. Broad units are utilized here too in order to save time. [N. Tereshko] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 7 Apr 84 p 1] 8228

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LIVESTOCK FEED PROCUREMENT

ALFALFA SEED PROCUREMENT DEFICIENCIES, MINISTERIAL RESPONSE

Inspection Reveals Shortcomings

Moscow SEL'SKAYA ZHIZN' in Russian 15 Jan 84 p 2

/Article by S. Yevstaf'yev, chief of a sector of the USSR People's Control Committee: "Enterprising Money-Changers"/

/Text/ The virtues of alfalfa do not require further publicity. However, the areas occupied by this valuable forage crop are still negligible and must be expanded sharply during the next few years. In order to solve this task, the production of seed must be increased. This work is being carried out by specialized farms and stations. But the amount of seed available is still small and thus its distribution must be carried out on a centralized basis and in a very strict manner. This is precisely why the producers of alfalfa seed are obligated to turn this seed over to the state resources. However, an inspection carried out by the USSR People's Control Committee has revealed that the quantities of seed being delivered to the state resources are considerably lower than the planned indicators. What is the reason for this?

This problem was studied by the organs of people's control. The status of affairs at 130 farms in Stavropol Kray, Krasnodar Kray and in Zaporozhye, Odessa and Kherson oblasts was studied. For these are precisely the regions which supply alfalfa seed for oblasts in the nonchernozem zone and a number of other regions in the RSFSR, Belorussia and the Baltic republics.

The inspectors were pleased by the fact that the leading farms, through the use of a progressive technology, are obtaining from 3-5 and more quintals of seed from each hectare. In 1982, for example, the Kolkhoz imeni Tatarbunarskoye Vosstaniye in Odessa Oblast obtained 185 tons of seed -- or 4.8 quintals per hectare. In 1983 the Zarya Kolkhoz in Krasnogvardeyskiy Rayon in Stavropol Kray obtained 3.5 quintals of seed from each of 300 hectares of alfalfa sowings. These farms fulfilled their plans for selling seed to the state. Unfortunately, such examples are few in number. The majority of the kolkhozes and sovkhozes that were inspected had from year to year violated state discipline and their contractual obligations and they were not fulfilling their plans for selling the seed for this crop to the state resources and this is adversely affecting the development of the feed base and the mastering of the crop rotation plans in those oblasts where the alfalfa does not furnish seed.

Thus, during the 1977-1982 period the farms in Zaporozhye Oblast fulfilled their plan for selling seed to the all-union fund by only 13.5 percent, thus becoming indebted to the tune of 1,064 tons. Nor was the situation any better in Odessa or Kherson oblasts or in Krasnodar or Stavropol krays.

Many kolkhozes and sovkhozes, in connivance with the agricultural organs, have begun squandering their alfalfa seed directly, selling it at inflated prices or exchanging it for equipment, construction materials or other goods.

For the leaders of a number of farms and agricultural organs, the sale of seed over and above the plan has become a common occurrence. In Odessa Oblast, for example, the alfalfa seed obtained over the past 3 years has been quite sufficient for fulfilling the plan for purchases for the all-union fund in the amount of 960 tons. However, a total of 145 tons was actually procured. At the same time, a large quantity of the farm's alfalfa seed was sold at its own discretion at prices which exceed the state purchase prices by a factor of 2-3. During this period of time, 27 of the kolkhozes and sovkhozes which were inspected in this oblast alone sold 1,093 tons of seed on the side.

Similar manipulations took place on farms in Kherson Oblast. The alfalfa seed harvest obtained in 1983 was fully adequate for fulfilling the tasks for selling seed to the all-union fund and for satisfying internal requirements. Despite this fact however, the task was fulfilled by only one half. The Batumskiy Sovkhoz did not sell one quintal in behalf of the plan assigned to it and yet it sold 10.9 tons on the side. This included 4 tons to the Kolkhoz imeni Frunze in Vinnitsa Oblast in exchange for a T-150 tractor and also 1.2 tons to the Dnestr Sovkhoz in the Moldavian SSR in exchange for vegetable seed. Moreover, incidents have been uncovered in the oblast showing how some farms, after squandering their own seed, obtain additional amounts from the state resources for satisfying their own requirements. In 1982, for example, the Solnechnyy Sovkhoz sold 4.5 tons of seed to points outside the oblast and in the spring of the following year obtained 4 tons from the state resources. Similar incidents took place at the kolkhozes imeni Kuybyshev and Tavriya and at the Molodaya Gvardiya and other farms in Kherson Oblast.

A brisk trade in seed also took place in other oblasts and krays in the Ukraine and the Russian Federation, where the inspection was carried out.

Another reason for non-fulfillment of the tasks for delivering alfalfa seed to the all-union and republic funds was also uncovered -- a low level of seed production management at the kolkhozes and sovkhozes and unsatisfactory work on the part of the specialized seed production farms already created. Many of the specialized seed production farms are not keeping pace with the modern requirements in terms of the level of farming culture, the structure of the areas under crops and logistical equipping. Thus their work is not characterized by very good cropping powers. Last year, for example, the seed production farms in Stavropol Kray obtained only 0.7 quintals of alfalfa seed per hectare, at a time when the kray's average was 1.1 quintals. In Kherson Oblast the yields were 1.2 and 2 respectively, in Odessa Oblast -- 1.8 and 2.3 quintals. All of this results from the fact that the agricultural organs are not devoting sufficient attention to the work of the seed production farms.

Many seed farms were created in a formal manner and are not fulfilling the tasks assigned to them. The Kolkhoz imeni Chapayev in Kominternovskiy Rayon, Odessa Oblast, approved as a specialized seed farm in 1981, obtains its alfalfa seed from common sowings, one half of which is occupied by non-regionalized varieties. In 1981-1982 the kolkhoz fulfilled its plan for selling seed to the state resources by only 36.2 percent. The Izvestiya Specialized Seed Farm in Zaporozhye Oblast also failed to plant special alfalfa sowings for seed, it did not fulfill the plan assigned to it for delivering seed to the all-union fund and the seed required for its own needs it is procuring from other non-specialized farms. And indeed the seed farms must be supplied with elite and 1st reproduction seed, which is produced at experimental-production farms of scientific-research institutes and training-experimental farms of VUZ's and technical schools. Such seed is available and yet owing to a lack of control on the part of the agricultural organs, it is being distributed in small batches to a large number of farms, including commodity farms.

The inspection uncovered a number of facts: the agricultural practices being employed in the cultivation of alfalfa seed are at a low level at many kolkhozes and sovkhozes; seed production crop rotation plans and the progressive wide-row method of sowing are being introduced into operations in a very weak manner; the crops are not being tended in the proper manner; only small quantities of organic and mineral fertilizers are being applied and great losses are being tolerated during the harvest work. On farms which were inspected in Krasnodar Kray, seed plants constitute only 3.7 percent of the seed production crop rotation plans and in Zaporozhye and Kherson oblasts -- not one hectare.

A number of seed production farms have been poorly supplied with special attachments for their grain harvesting combines for the threshing of alfalfa. Farms which were inspected in Kherson Oblast lack 16 such attachments, in Krasnodar Kray -- 40 and in Stavropol Kray -- 19.

All of these facts serve to indicate that the RSFSR Minsel'khoz /Ministry of Agriculture/ and Minsel'khoz for the UkSSR are not exercising proper control over the work of the local agricultural organs, kolkhozes and sovkhozes with regard to the carrying out of the plans for selling alfalfa seed to the all-union and republic funds and the accurate observance of the agricultural practices required for the cultivation of this crop and they are not suppressing those incidents concerned with the squandering of this seed.

Response From Deputy Ministers

Moscow SEL'SKAYA ZHIZN' in Russian 21 Mar 84 p 2

/Response to above article/

/Text/ A critical piece of correspondence entitled "Enterprising Money-Changers" was published in the "People's Control" Section on 15 January of this year. It concerned the sale on the side of alfalfa seed and the non-fulfillment of the plans for delivering such seed to the all-union fund by farms in a number of oblasts in the Ukraine and the RSFSR.

In this regard, the Deputy Minister for Agriculture for the UkSSR, A. Denisenko, reported to the Editorial Board as follows:

"The facts concerning the squandering of alfalfa seed truly took place at the farms inspected by the organs of people's control. The criticism directed at the agricultural organs in Zaporozhye, Odessa and Kherson oblasts, during a meeting of the Board of Directors, is considered to have been quite proper. For failure to exert proper control and for non-fulfillment of the established tasks for supplying alfalfa seed, the chief of the Zaporozhye Oblast Agricultural Administration G.D. Golovenko was reprimanded and the chief of the Kherson Oblast Agricultural Administration A.I. Zhuravlev was issued a strict warning. For crude violations of the production technology for perennial grass seed and the non-plan sale of such seed at raised prices by many farms, the chief of the Odessa Oblsortsemprom A.M. Tkachenko was reprimanded. He was warned that he would be removed from his position if the incident was repeated. The leaders and specialists in 22 rayons in Dnepropetrovsk, the Crimean and Nikolayev oblasts were also held administratively accountable for these actions.

"As of 1 February 1984, the specialized seed production farms had supplied the all-union fund with 925 tons of perennial grass seed, including 800 tons of alfalfa seed, or 380 more tons than last year. The procurements of seed, following their cleaning at seed production stations, are continuing. The agricultural organs and the UkSSR Sortsemprom have organized inspections of the seed funds and additional measures are being carried out aimed at organizing proper accounting procedures in the interest of preventing non-contractual sales of seed.

"Alfalfa seed plants have been planted on 190,000 hectares, including on 90,000 hectares using the wide-row method for the purpose of ensuring the unconditional fulfillment of the planned volumes for the production, procurements and delivery of alfalfa seed to the all-union fund. Assistance in the form of logistical resources has been made available to the seed production farms."

The Deputy Minister of Agriculture for the RSFSR, V. Martynov, replied as follows:

"The report entitled "Enterprising Money-Changers" and the note by the USSR People's Control Committee concerning fulfillment by the kolkhozes and sovkhozes in Krasnodar and Stavropol krays of the plans for selling alfalfa seed to the state resources have been examined and discussed in the RSFSR Ministry of Agriculture. For shortcomings noted in organizing the fulfillment of the plans for procuring alfalfa seed for the state resources, penalties were imposed upon the deputy chiefs of the agricultural administrations of the Krasnodar Kray Executive Committee A.G. Pashkov, the Stavropol Kray Executive Committee V.G. Bessonov and the Saratov Oblast Executive Committee A.S. Denisov. Strict warnings were also issued for this same reason to the deputy chiefs of the agricultural administrations of the Volgograd Oblast Executive Committee F.L. Kozlovtsev and the Rostov Oblast Executive Committee V.A. Goncharov. Note was also taken of unsatisfactory work in the organization of alfalfa seed production by the chiefs of the agricultural administrations of the Krasnodar and Stavropol kray executive committees and the Rostov, Saratov and Volgograd oblast executive committees.

"The ministry has examined the measures presented by the local agricultural organs of krays and oblasts for increasing alfalfa seed production and carrying out the plans for procuring this seed."

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LIVESTOCK

REGULATIONS ON LIVESTOCK HOLDINGS OF PRIVATE PLOTS EXPLAINED

Moscow ZHIVOTNOVODSTVO in Russian No 3, Mar 84 pp 62-63

[Article by V. A. Yerofeyevskiy, senior legal consultant of the USSR Minsel'khoz [Ministry of Agriculture]: "Livestock on Private Plots"]

[Text] Readers N. Borodkin of Stavropol Kray, N. Begma of Crimea Oblast and others ask what types of livestock and fowl and in what quantities can be maintained on private plots by individuals who work and live in villages and cities.

The law has different determinants for the quantity of productive livestock and fowl that can be maintained on the private plots of kolkhoz farmers, workers and employees.

The Exemplary Code of the kolkhoz establishes that the family of a kolkhoz farmer (kolkhoz household) can have one cow with progeny up to 1 year of age and one calf up to 2 years of age, one sow with progeny up to 3 months of age or two hogs being fattened, up to 10 sheep and goats together, bee families, poultry and rabbits. The quantity and types of livestock that a kolkhoz family can maintain within these limits are determined by the codes of each specific kolkhoz.

However, it is possible to increase the number of animals being maintained by private kolkhoz households and also to substitute one type of animal for another with a consideration of national characteristics and local conditions. Decisions on these questions are made by the councils of ministers of union republics.

In Stavropol Kray, for example, kolkhoz members may have, instead of hogs, up to 10 sheep and goats together (that is, 20 head). A similar situation is foreseen for the kolkhoz farmers of the Chechen-Ingush ASSR. In the foothill zones of the Dagestan ASSR the kolkhoz household may have up to 10 (in shepherd families--up to 20) sheep and goats together and instead of hogs--one work animal from among livestock. In the mountainous zone of Dagestan it is possible to additionally maintain one cow with progeny up to 1 year of age and one calf up to 2 years of age, up to 20 (in shepherd families--up to 40) sheep and goats and instead of hogs--one head of livestock for work purposes.

An increase in the norms for maintaining animals and substitutions of one type for another are determined in the RSFSR according to various climatic zones and national characteristics of the populations of the Bashkir ASSR, Buryat ASSR, Kalmyk ASSR, Tuva ASSR, Yakutsk ASSR, Altay Kray, Krasnoyarsk Kray, Arkhangelsk, Magadan, Murmansk, Ulyanovsk and Tyumen oblasts, Nenetsk autonomous okrug and Karasukskiy Rayon of Novosibirsk Oblast.

For example, in the kolkhozes of Murmansk Oblast kolkhoz households can maintain an additional 30 deer, including 20 does, and the kolkhoz farmers of Magadan Oblast can substitute up to 50 deer and up to 5 fur-bearing animals for sheep and goats. In the Yakutsk ASSR kolkhoz households can replace sheep and goats with one additional cow with progeny up to 1 year of age and one calf up to 2 years of age and an additional 35 deer, including 10 does; some kolkhoz farmers are allowed to maintain one kumy filly and colt.

In other union republics there are also norms for increasing the number of domestic animals and for substituting one type of animal for another. Thus, in the mountainous regions of Azerbaijan it is possible to maintain horses or a mule instead of sows. In Estonia it is possible to maintain piglets up to 2 months of age and to fatten one hog, or to fatten two hogs if no sows are present.

There are increased norms for livestock upkeep in the households of kolkhoz farmers who are occupied in range livestock raising and who do not have plots on irrigated lands as well as for those who live permanently in desert and semi-desert regions of the Uzbek SSR. Different numbers of livestock and different orders for substituting types of animals depending upon national characteristics and local conditions have been established for Armenia, the Kirghiz SSR and the Turkmen SSR.

The Exemplary Code of a kolkhoz does not establish the use of fines or other sanctions for surpassing the norms for maintaining livestock privately. However, for violations of the code's norms the guilty party may have disciplinary action taken against him--censure, reprimands, severe reprimands, warnings about and exclusion from kolkhoz membership.

For those kolkhoz farmers who fulfill the requirements of the code and who do not transform the private plot into a source of gain and profit, the Exemplary Code on the Internal Regulation of Kolkhozes, confirmed by the union's kolkhoz council on 31 March 1982, provides pastures for livestock free of charge.

Domestic animals can be raised by workers, employees and other citizens who are not kolkhoz memebers. Thus, in the RSFSR the residents of rural areas and cities, workers' settlements and other settlement points except of the rayons of the Extreme North, the Tuva ASSR and the Kalmyk ASSR, can privately have, per family, a cow (buffalo), one calf not counting those born during the current year, a sow with progeny up to the age of 2 months or two hogs being fattened, three sheep and goats over 1 year old not counting progeny, and in the absence of cows or hogs--no more than five sheep and goats over a year old, not counting progeny.

The number of domestic fowl and bee families owned privately by citizens is not limited by law.

With a consideration of climatic conditions and national characteristics the councils of ministers of autonomous republics and executive committees of kray and oblast soviets of people's deputies can allow citizens to privately maintain a horse or mule, donkey, camel, bull or buffalo. The numbers and types of animals workers and employees living in the Extreme North and its environs, in Tuva ASSR and in Kalmyk ASSR can have are also determined by the councils of ministers of these republics or by the executive committees of kray and oblast soviets of people's deputies.

The party and government have taken measures to further develop livestock production output on private plots. A resolution by the CPSU Central Committee and the USSR Council of Ministers of 8 January 1981, "On Supplementary Measures to Increase Agricultural Production Output on the Private Plots of Citizens," allows sovkhozes and other agricultural enterprises and recommends that kolkhozes conclude voluntary agreements with citizens living in their region and working conscientiously as well as with retirees regarding the raising and procurement of livestock and fowl and the procurement of surplus milk. The herds raised according to agreements can surpass the number of animals established by the Exemplary Code of the kolkhoz, by decision of the councils of ministers of republics and executive committees of kray and oblast soviets of people's deputies for kolkhoz households and the families of workers, employees and retirees.

In order to formulate the receipt of livestock and fowl for raising the USSR Agricultural Ministry, the USSR Ministry of Procurement, the USSR Ministry of Finances and the USSR TsSU [Central Statistical Administration] have worked out and confirmed Model Agreements for the raising and procurement of livestock and fowl and for the procurement of surplus milk on private plots. These agreements foresee the obligations of agricultural enterprises with regard to supplying citizens with calves and young fowl, feed, grazing land and haylands; the order for selling products and the conditions related to payment for products have been determined.

The successful development of livestock production output on private plots must be facilitated by the availability in kolkhozes, sovkhozes and other rural enterprises of the necessary quantities of horses or other work animals, if dictated by climatic or other conditions. Enterprises must also have the corresponding inventory and the means of small mechanization in order to satisfy the needs of citizens related to managing private plots. Here it should be noted that the best enterprises successfully solve these problems by creating organizations of the "bureau of good services" type. Thus, in the Belorussian SSR there is experience in the creation of special enterprises where it is possible to obtain everything necessary for the successful organization of labor in the private enterprise without losses of production work and where it is even possible to order certain services. A combine for municipal services has been operating successfully for 10 years in the Neman Kolkhoz of Stolbtsovskiy Rayon, Minsk Oblast. Thirty persons, mainly retirees, work in this cost accounting subdivision. Each year the combine

provides kolkhoz farmers with several dozen types of services valued at over 100,000 rubles.

Moreover, it is recommended that citizens who conclude agreements with enterprises regarding animal production output be given additional land plots for the production of feed and for the grazing of animals. The law stipulates that expenses for the upkeep and improvement of land plots allocated to kolkhozes for the grazing of private livestock be determined by the kolkhozes themselves and confirmed by the executive committees of state, settlement and village soviets of people's deputies.

The state is taking great expenses upon itself with the goal of facilitating animal production output. The resolution of the CPSU Central Committee and the USSR Council of Ministers of 14 September 1977, "On the Private Plots of Kolkhoz Farmers, Workers, Employees and Other Citizens and Collective Horticulture and Gardening" allows USSR Gosbank to provide kolkhoz farmers, workers and employees with 500 rubles of credit to obtain cows and 250 rubles to obtain calves. Kolkhoz farmers living in the Extreme North and neighboring regions are provided with up to 300 rubles of credit to purchase deer and other livestock. Since January 1981 sovkhozes and other enterprises, with the approval of the trade union committee, have been allowed to cancel up to 50 percent of the credit provided for the purchase of cows and calves to workers and employees who work conscientiously in these enterprises as well as to teachers and doctors working and living in kolkhozes and sovkhozes and retirees who have worked in these enterprises for many years. It is permitted to cancel debts by means of resources from funds for material stimulation. The most conscientious workers and retirees who have earned incentives can be given calves free of charge at the expense of the enterprise and they can be given aid in the form of building materials and of building structures on their plots. Products procured from kolkhoz farmers, workers and employees are paid for by kolkhozes and sovkhozes according to prices established in the agreement, but not higher than state procurement prices.

With the goal of improving the organization of procurement of animal products organizations of consumers' cooperatives have been allowed to provide individuals with monetary advances of up to 50 percent of the total indicated in agreements.

Agreements on the procurement of products from private plots are concluded by one of the procurers--the rayon procurement buro, the procurement and sales base, the consumers' society or the cooperative trade organization. These agreements are concluded for 1 year or for several years and are registered in the executive committees of village, settlement or city soviets of people's deputies. Accounts for production are kept according to agreements or to state procurement prices with reductions in prices for deviations in production quality. The procurer pays for the delivery of products to the reception point by the supplier.

The livestock, fowl and rabbits sold by the supplier must be healthy, and animal products must meet veterinary-sanitation requirements.

The agreement is considered to be fulfilled on the day the last batch of products is delivered. If the terms of the agreement are not fulfilled the guilty party reimburses the other for losses. If the supplier, who received an advance from the procurer, could not meet the terms of the agreement through no fault of his own he returns the advance with a 1 percent penalty for the entire time these resources were used.

All privileges related to the maintenance of livestock and fowl are given only to those who work conscientiously or who are retirees. If an able-bodied citizen is not involved in publicly-useful labor or if the uses the private plot with the purpose of profits and gains to the detriment of public production he can be stripped of the right to privately own livestock, fowl and bee families upon the decision of the executive committees of rayon or city soviets of people's deputies.

8228
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FOUR ITEMS ON DEVELOPMENT OF POULTRY INDUSTRY

Turkmen Equipment Problems

Ashkhabad TURKMENSKAYA ISKRA in Russian 23 Mar 84 p 2

[Article by M. Bektasov: "There Is a Shortage of Freezers"]

[Text] Poultry raising has been widely developed recently in the enterprises of Chardzhou Oblast. At the present time there is a duckling complex in the Chardzhou Poultry Sovkhoz with a capacity of 1,000 tons of meat per year. By next year it is planned to double production. An existing complex raising geese at the Sayatskaya Poultry Factory today produces 400 tons of high-calorie dietetic meat and in 1 year will produce no fewer than 1,000 tons. Many oblast kolkhozes involved in poultry raising are planning to increase the production of poultry meat to 700-800 tons per year.

However, existing capacities at the Chardzhou Meat Combine can accommodate no more than 5,000 birds per shift--half the amount required by the flock of birds. There are no freezers here for freezing slaughtered poultry. At the Kerkinskiy Meat Combine there are no capacities to process fowl.

Considering the growing volume of production and procurement of poultry and the shortage of capacities to process and freeze poultry meat, Turkmen SSR Gosplan in its purposeful program for the development of the agro-industrial complex in the period to 1990 foresaw the building of a new meat combine in Chardzhou, the building of which is to begin in 1986. The TSSR Ministry of the Meat and Dairy Industry is allocating one additional flow line for the combine to process 10,000 birds per shift. Its installation is planned for the first half of this year.

It would seem that the problem is being solved. But here is what is alarming--with the installation of the new line production volume will increase of course, but what about freezers? At present they consist of two small capacities calculated to store only 10 tons of meat. This means that they will hold only 5,000 slaughtered birds--one day's shop production. There is no second shift working here because there is nowhere to store processed poultry.

It is the shortage of freezer capacities that sets the conditions for the pace of work in the shop's collective--if a bird is slaughtered today then tomorrow it must be sent immediately to the trade network. When demand is low in stores, which frequently happens, especially in summer, production lags occur.

In such cases the meat combine turns down its partners, primarily the main supplier--the Chardzhou Poultry Sovkhoz--with regard to the acceptance of ducks. By doing this it does not create difficulties for itself. The fact is that with normal care a duck increases in weight in the course of 2 months; after this it is unprofitable to maintain it. Changes also occur in the plumage which make processing more difficult. Thus the market appearance of the duck is lost and because of this demand for it decreases.

After being turned away at the door, trucks with ducks return to the duck complex and the sovkhoz is required to expend feed on them while at the same time decreasing and impoverishing the rations for those animals which were being fattened. If we consider the cost of feed needed to maintain ducks, it is not difficult to calculate the losses incurred in the sovkhoz as a result of the "resettling" of the ducks.

For the sake of fairness we must say that there are shortcomings on the part of the sovkhoz too. For some reason there is a preference there to fatten and deliver the majority of ducks during the summer and fall and not during the winter, when demand for poultry meat is high. Moreover, according to an agreement with the combine the sovkhoz must secure the well-paced delivery of poultry in the course of the entire year.

However, let us return to the meat combine and to the refrigerators. Let us emphasize that not only are they small, but that they are earmarked only to cool meat. The temperature in the refrigerator does not get below zero. We can imagine what is done with slaughtered ducks during the hot periods of the year if the combine does not have special walk-in freezers.

"It is simply imperative that our combine have all the possibilities for processing, storing and freezing poultry," says the trade director of the oblast executive committee, D. Mamyshev. "Freezing locally enables us to deliver poultry meat to the Turkmenmyasomoltorg [Turkmen meat and milk trade network] wholesale base if its delivery exceeds the needs of the population.

There are many problems at the Chardzhou Meat Combine, but the director, P. Bayev, feels that the main one is to expand the capacities of refrigerators and to have them accomodate at least up to 50,000 tons of meat. This must be done at the same time that a new line is installed. Ammonia compressors are needed to freeze poultry meat.

The next word belongs to TSSR Gosplan and the TSSR Ministry of the Meat and Dairy Industry.

The workers of the region's agro-industrial complex are striving to more fully utilize reserves for increasing the production of food products and to make a worthy contribution to the implementation of the Food Program. By the end of the five-year plan the annual processing of poultry meat must reach 3,800 tons. This calls for taking effective measures to increase the capacities of refrigerators in meat combines. Specific help is awaited from the ministry of the meat and dairy industry.

Research in Poultry Diseases

Leningrad LENINGRADSKAYA PRAVDA in Russian 29 Mar 84 p 3

[Article: "Science for Poultry Raising"]

[Text] One of the goals presented by the USSR Food Program with regard to the intensification of livestock raising is the elaboration and assimilation of improved methods and means to prevent disease in livestock and poultry and to introduce effective biological and chemotherapeutic preparations for this purpose. Further development of research in this area and the practical results of scientific research were the subjects of the All-Union Coordinating Meeting of institutes within the system of USSR Ptitseprom [Poultry Industry Association], which began its work yesterday in the VNIVI [All-Union Scientific Research Veterinary Institute] of Poultry Raising in Lomonosovskiy Rayon. It was organized by the USSR Agricultural Ministry, USSR Ptitseprom Administration and the All-Union Scientific Research Veterinary Institute of Poultry Raising.

The meeting, in which directors and leading scientists of scientific-research centers in the country, workers in the administration of the poultry industry and producers are participating, will summarize the results of scientific-research work in 1983 and will determine the paths and goals of veterinary science for the coming years in the areas of further accelerating poultry raising, increasing its contribution toward realizing the decisions of the 26th CPSU Congress and subsequent plenums of the party's central committee and those of the USSR Food Program.

In recent years new steps have been taken to develop the poultry raising industry on the basis of scientific achievements. Thus, for example, in 5 years the scientists of VNIVI developed about 100 scientific elaborations, the introduction of which in the country's poultry raising branch yielded an annual economic effect of 28 million rubles. The meeting's participants emphasized that the experience of the accelerated development of the Leningrad branch of poultry raising, the potential of which grows with stability from year to year, serves as an example of strengthened ties between science and production.

Belorussian Production Efficiency

Moscow SEL'SKAYA ZHIZN' in Russian 16 Mar 84 p 1

[Article: "Decreasing Expenditures"]

[Text] The cost of production in the Minsk Production Association of Poultry Raising has become the lowest in the country. Today an automated complex has been put into operation in which two operators will work with 200,000 hens, which will enable them to collect 31 million eggs annually. They implement all processes with the aid of a computer and television room, beginning with the distribution of feed and ending with delivering products into the trade network.

"Such poultry facilities have significantly increased the capacities of the association without additional building, producing about half a billion eggs annually," said the senior economist and recipient of the USSR State Prize, L. Shaplyko. "Their installation has been completed in all factories that have been subject to radical renovation. All four old facilities have been united under one roof. This has almost doubled their capacity by eliminating passageways and corridors. Expenditures for reequipping are repaid in a quarter. Most labor-intensive operations are being curtailed. As a result, the cost of 1,000 eggs equals not much over 30 rubles. All products are of the highest quality when sold.

Large Siberian Plant

Moscow SEL'SKAYA ZHIZN' in Russian 4 Mar 84 p 1

[Article by M. Babintsev: "Largest in Siberia"]

[Text] The new shops that have been put into operation at the Bratsk Poultry Factory have made it one of the largest in the Angara area. When operating at planned capacity it will supply the trade network and enterprises of public nutrition with 200 million eggs and 20,000 quintals of dietetic meat annually. The new poultry facility will be able to supply the northern regions of the oblast and many cities and settlements of the western BAM [Baykal-Amur line] area with these products.

At the present time a large poultry factory for meat purposes is being built near the city of Zima, and many existing enterprises are being renovated and expanded.

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AGRO-ECONOMICS AND ORGANIZATION

KAZAKH MINISTER DISCUSSES FINANCIAL PROBLEMS OF REPUBLIC APK

Alma-Ata SEL'KOYE KHOZYASTVO KAZAKHSTANA in Russian No 3, Mar 84 pp 12-13

/Interview with Aleksandr Yefimovich Batsula, minister of finances for the Kazakh SSR; date and place not specified: "Financial Levers for the Food Program"/

/Text/ /Question/ In conformity with the decisions handed down during the May (1982) Plenum of the CPSU Central Committee, large-scale measures are being carried out aimed at improving the economic situation in the rural areas and strengthening the material interest of sovkhozes and kolkhozes in increasing production and raising the quality of their products. What is actually being done in this regard? On what aspects of the work should the leaders and specialists of farms and APK enterprises, agroindustrial associations and financial-credit institutes concentrate their principal attention?

/Answer/ In the interest of raising the material interest and responsibility of sovkhozes and kolkhozes in the results of their financial-economic activities and in accordance with the decisions handed down during the May (1982) Plenum of the CPSU Central Committee, additional financial resources are being made available for agriculture on an unprecedented scale and changes are taking place in the sources for financing production operations. This will enable the agricultural enterprises to operate on the basis of genuine rather than formal cost accounting principles. Success in carrying out this work is dependent not only upon receiving financial assistance from the state, but also upon the sovkhozes and kolkhozes themselves, many of which can operate on a self-supporting basis only if the economic efficiency of production is raised considerably and a sharp reduction takes place in unproductive losses.

State expenditures for increasing the income of sovkhozes and kolkhozes as a result of raising the purchase prices, introducing bonuses for adding on to these prices and writing off bank loan indebtedness amounted to 3.2 billion rubles annually for our republic. But the problem is simply not one of allocation of resources. Changes are taking place in the mechanism for distributing and utilizing profits, for directing a portion of the profits into the budget, for the formation and special purpose use of certain economic incentive funds and for obtaining budgetary appropriations and long-term credit for expanded reproduction. At the same time, the wages for man categories of sovkhoz and kolkhoz workers have been raised and the production costs for output are being determined in a more complete manner.

The sovkhozes and kolkhozes, the rayon and oblast agroindustrial associations and also the financial-credit organs must study thoroughly and understand this new financial mechanism and they must utilize it in a skilled manner for radically improving their economic operations in the interest of carrying out the Food Program.

/Question/ As is known, many sovkhozes and kolkhozes, in addition to the basic purchase price, receive various bonuses added on to these prices for products delivered to the state. What are the distinctive features of and how important to the low profitability and unprofitable farms are the new bonuses added on to the purchase prices, which were introduced in January 1983. Are these bonsues being paid out and utilized in the correct manner?

/Answer/ Truly, many sovkhozes and kolkhozes, when selling agricultural products to the state, obtain monetary earnings for such products which include various incentive bonuses added on to them: for surpassing the average annual purchase level for the Tenth Five-Year Plan, for heavy weight livestock and for other indicators. All of this stimulates growth in the production and purchases of field crop husbandry and animal husbandry products from the standpoint of both quantity and quality.

Since 1 January 1983, considerable increases have taken place in the purchase prices for almost all of the principal types of agricultural products. At the same time, the state has introduced the use of new bonuses for adding on to the purchase prices, but not for all of the sovkhozes and kolkhozes -- only for the low profitability and unprofitable ones. This is the first time that such bonuses have been placed in operation in the country. It is expected that they will generate more interest on the part of weak farms in increasing their sale of agricultural products to the state and provide them with the necessary financial resources, not on the basis of a direct state subsidy but rather through growth in output production. Overall, the May (1982) Plenum of the CPSU Central Committee considered it necessary to allocate 16 million rubles for raising the purchase prices and introducing the bonuses to be used with them.

It was also considered advisable to have the production costs for the agricultural products reflect in a more accurate manner the true production costs associated with the use of industrial products purchased by the sovkhozes and kolkhozes. Thus, commencing 1 January 1983, the system employed earlier by the sovkhozes and kolkhozes in which direct compensation was provided from the budget for the difference between the former and the recently introduced wholesale prices for petroleum products, spare parts, construction materials and other material values was abolished. In 1982, this compensation amounted to 293 million rubles in Kazakhstan alone. In connection with its abolishment and in order to provide reimbursement for losses which developed at the sovkhozes and kolkhozes, the additional increase in purchase prices throughout the republic amounted to 334 million rubles.

In the case of Kazakhstan, with its vast zone of ricky farming and the presence of large tracts of low productivity desert and semi-desert lands, special importance is attached to the purchase price bonuses introduced at 1,317 low productivity and unprofitable farms which are operating under unfavorable natural and economic conditions. Towards this end, the republic is being

allocated 500 million rubles annually. The oblast executive committees in all areas have established a group of low productivity and unprofitable farms and, after approving the list of such farms, established a specific bonus amount for adding on to the purchase prices for individual types of products -- mainly for meat, milk, wool, vegetables, potatoes and sugar beets.

A requirement exists for taking advantage of the favorable economic conditions, displaying persistence in lowering the production costs for the agricultural products, achieving greater economies and, on this basis, achieving highly profitable operations at each sovkhoz and kolkhoz.

However, serious improvements have still not been achieved in the organization of economic work in the rural areas. Many leaders of the farm service are making only weak use of the financial levers that are available for raising production profitability. As a result of neglect in accounting and economic work, some sovkhozes and kolkhozes failed to display proper activity for the purpose of obtaining bonuses added on to their purchase prices.

Analysis reveals that based upon actual deliveries of agricultural products to the state, the republic's sovkhozes and kolkhozes which were included by the oblast executive committees on the list of low profitability and unprofitable farms should have received considerably more bonuses last year than were actually paid out by the procurement and other organizations.

/Question/ Distinct from sovkhozes and other state agricultural enterprises, kolkhozes as a rule are completely self-supporting. However, commencing in 1983 budgetary financing for a number of expenditures was introduced into operations for a group of low profitability and unprofitable kolkhozes. Could you provide us with further details on this important financial measure.

/Answer/ For a long period of time, our state has created for the kolkhozes more favorable conditions for work carried out on a self-supporting basis than it has for the sovkhozes: agricultural products purchased from kolkhozes were paid for at purchase prices which were substantially higher than the delivery prices established for state agricultural enterprises. However, these prices have gradually levelled off since the end of the 1960's and have become uniform purchase prices for both the kolkhozes and sovkhozes. Kolkhozes which operate under less favorable natural-economic conditions are for all practical purposes not financed from the budget (with the exception of those which are maintained by budgetary means in certain veterinary districts and which are partially covered by budgetary financing of the expenses associated with the development of solonetz lands).

Today state budgetary funds for covering a number of planned expenditures are also being allocated to kolkhozes included by the republic's Council of Ministers on the list of low profitability and unprofitable farms. More than 52 million rubles are being allocated annually from the budget for this purpose.

The Council of Ministers for the Kazakh SSR has included 242 kolkhozes on the list of low profitability and unprofitable farms. All expenditures at these facilities for the capital construction of housing, social and cultural-

domestic installations and municipal economy projects are either fully or partially financed by means of budgetary appropriations. Budgetary funds (within the limits assigned) are also used for the construction of intra-farm roads, for the maintenance of childrens' pre-school and cultural-educational institutes and young pioneer camps, including expenses for acquiring implements and equipment of a cultural-domestic nature and also for the carrying out of mass-cultural work. In addition, the low profitability and unprofitable kolkhozes receive these funds (fully or partially) for making insurance payments to the organs of state insurance.

A typical and important feature is the fact that the financing of the mentioned expenditures, distinct from sovkhozes, is carried out not from the republic budget but rather from the rayon budgets at the locations of the kolkhozes. The rayon soviets of people's deputies and their executive committees, based upon recommendations by the RAPO /rayon agroindustrial association/, the kolkhoz councils and the rayon financial departments, provide for the allocation of funds for specific kolkhozes and by types of expenditures in their local budgets. This imposes definite responsibility upon the local soviet and economic organs with regard to the economic status of the kolkhozes.

Unfortunately, the budgetary financing of the kolkhozes was troubled by shortcomings. In a number of oblasts throughout the republic, the rayon executive committees dragged out the distribution of budgetary appropriations for 1983 from the standpoint of the kolkhozes and types of expenditures. The allocation of appropriations developed weakly, especially in Aktyubinsk, Alma-Ata, Eastern Kazakhstan, Dzhambul, Kustanay, Taldy-Kurgan and Chimkent oblasts. Incidents involving the use of funds for other than special purposes were uncovered on some farms in Alma-Ata, Eastern Kazakhstan and Chimkent Oblasts. The republic's kolkhoz council and the local agroindustrial and financial organs must draw practical conclusions from this fact and correct the situation.

/Question/ Under the new conditions, what are the requirements with regard to the planning and distribution of profits, the creation by means of such profits of economic incentive funds at sovkhozes and special funds at kolkhozes and what changes will take place in this regard in the relationships among participants in the agroindustrial complex?

/Answer/ In connection with the increases in purchase prices and the introduction of a bonus for adding on to them and also taking into account a simultaneous increase in certain production expenses of agricultural enterprises, the planned profits (net income) of the republic's sovkhozes and kolkhozes will increase by several hundred million rubles. The farm leaders and their economic services must handle these large additional funds in the correct manner and this requires first of all complete familiarity with all of the subtleties of profit planning and distribution.

Sovkhoz profits are included among the relatively few planning indicators which are approved at a higher level. Thus the realistic nature and soundness of a plan are greatly dependent upon Minsel'khoz /Ministry of Agriculture/, Minplodoovoshchkhoz /Ministry of the Fruit and Vegetable Industry/ and the republic's Gosplan. But prior to its approval, a sovkhoz is obligated to

submit its own recommendations and computations. Here the possibility is not eliminated of examining the original plan in the established manner, taking into account the recurring or counter plan of the farm.

The correct use of profits for expanding production and for incentive purposes exerts a favorable influence with regard to stimulating growth in the production and purchases of agricultural products. The May (1982) Plenum of the CPSU Central Committee introduced some changes into the system established earlier for distributing sovkhoz profits and into the income tax system for kolkhozes and this is promoting an even greater increase in the stimulating role played by profit (net income).

Payments into the budget for fixed productive capital of an agricultural nature have been abolished. In the place of such payments, the sovkhozes now make payments into the budget from their profits, in accordance with an increasing scale and depending upon their level of profitability. In the process, the minimal amount is established for a profitability of from 25 to 30 percent and maximum -- in excess of 50 percent. The kolkhozes make payments into the budget in similar amounts in accordance with a tax on net income.

The profits of sovkhozes, with the exception of payments into the budget, are considered to have been distributed and an average of up to 62.5 percent is deducted from it throughout the republic for the economic incentives fund and the reserve fund and the remaining amount serves for the most part as a source for the financing of planned expenditures. Moreover the actual deductions from profits for certain funds can be more or less than the average norm, since a system has been established for differentiating and limiting them for specific farms.

A system has been defined for creating and also utilizing the centralized economic incentive funds of rayon and oblast agroindustrial associations. The resources of these funds exert an additional stimulating effect with regard to improving the operations of all subunits included in the agroindustrial complex. Meanwhile, some of the republic's agroindustrial associations have still not even adopted decisions concerning the creation of these funds and many are utilizing them in a very timid manner in the interest of raising production efficiency and protecting completely the products obtained.

The creation of incentive funds at the kolkhozes is arousing concern. It is known that a strictly regulated system for the formation of such funds is not being established for them, similar to the one established for state enterprises. In light of this fact, some kolkhozes in recent years have been drawn towards using their resources for consumption purposes to the detriment of interests concerned with expanding production. This is one of the reasons for growth in obligations in terms of both bank loans nad the suppliers. Minsel'khoz for the Kazakh SSR and the republic's kolkhoz council must ensure strict fulfillment of those recommendations which hold that the additional funds obtained by the kolkhozes as a result of the raised purchase prices and the bonuses added on to them are used mainly for carrying our measures associated with increasing the production of agricultural products and strengthening the farm economies.

The July 1983 decree of the CPSU Central Committee and the USSR Council of Ministers entitled "Improving the Economic Interrelationships of Agriculture With Other Branches of the National Economy" will exert an important financial effect on the partners in the agroindustrial complex. The economic incentive funds of organizations which provide services for agriculture and the amount of bonuses issued to their workers are now dependent upon the level of production of agricultural products. This will raise the mutual interest of partners in the agroindustrial complex in the final results of agricultural production.

/Question/ Improvements in the administration of the agroindustrial complex have brought about changes in the size of the administrative staff, which is under the control of the financial organs. Could you please discuss in further detail the changes that have taken place in the staffs of the agroindustrial complex within the republic, the existing shortcomings with regard to the observance of official-estimates discipline and the tasks confronting the agroindustrial associations and financial organs.

/Answer/ Changes have taken place in the structure of the rayon and oblast agricultural administrations in connection with the carrying out of the functions of the agroindustrial associations. The staffs of the rayon agricultural administrations have increased in size. New positions have been introduced: chief economist for labor and production costs and specialists (engineers or economists) for inter-branch communications and special problems.

The structure of oblast agricultural administrations has changed. Departments for labor and social problems and groups for inter-branch contacts have been created in a majority of them. Whereas earlier some departments of oblast agricultural administrations were maintained on the basis of witholdings from subordinate enterprises, today they are being maintained by means of local buegetary funds.

The standard statute for a rayon agroindustrial association assigns control to the RAPO's for ensuring that the enterprises and organizations included in their structures observe estimates and staff discipline and also existing legislation dealing with the issuing of wages and bonuses. However, the materials obtained from inspections carried out by financial organs indicate that the rayon and oblast agroindustrial associations are not completely carrying out their obligations with regard to controlling observation over estimates and staff discipline.

Not all of the local agroindustrial organs have correctly defined their place with regard to carrying out their new and more responsible functions. For example, the Kirov RAPO in Taldy-Kurgan Oblast organized in a poor manner interaction among the enterprises and organizations belonging to the association. Moreover, measures developed for strengthening the economies of low profitability and unprofitable farms turned out to be very formal in nature. Mistakes and miscalculations were tolerated in the work of creating centralized economic incentive funds and in the work of the RAPO legal service.

Importance is being attached at the present time to ensuring that the new organs of administration in the rural areas improve their style of work and focus special attention on the economic aspects of their activity, as required

in the decisions handed down during the December (1983) Plenum of the CPSU Central Committee, in which the need was pointed out for making more efficient use of the resources allocated for agricultural development.

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PRODUCTION COSTS, PROFITABILITY IN KIRGHIZ AGRICULTURE

Frunze SEL'SKOYE KHOZYAYSTVO KIRGIZII in Russian No 1, Jan 84 pp 2-3

[Article by A. Smolyakov, director of the administration for financing agriculture of the Kirghiz SSR Finance Ministry: "The Role of Economic Analysis in Agricultural Production"]

[Text] The goals established by the party in the Food Program requires that all directors of kolkhozes and sovkhozes and specialists of agricultural production and economic and financial services in enterprises and in RAPO's [Rayon Agricultural Production Association] turn their attention toward the efficient management of agricultural production and obtaining the highest end results.

An analysis of the financial and economic activities of kolkhozes and sovkhozes can help to successfully realize this goal. Practical experience shows that in a number of enterprises analytical work is unsatisfactorily organized, resulting in the fact that production organization is poor and that land, technology, fertilizer and other materials as well as labor resources are utilized poorly. Such enterprises do not fulfill plans for the production and sale of products to the state each year. Their directors and especially their specialists--agronomists, zootechnologists, veterinarians, mechanics and others--practically do not involve themselves in problems related to adhering to an economic regimen, to decreasing production expenditures and to increasing profitability.

Practical experience shows that in many kolkhozes and sovkhozes of our republic analyses are made only with data from annual reports, and for this reason existing shortcomings and violations in production-financial activities in these enterprises are not eliminated and why existing reserves for increasing the volume of agricultural production and for improving its quality while decreasing its cost are not utilized.

The organization and course of analytic work conducted by the RAPO and the ministries of agriculture and the fruit and vegetable industry, which are called upon to implement controls over the activities of agricultural enterprises, also have serious shortcomings. These organs analyze the production and financial activities of sovkhozes and kolkhozes based usually only on annual results and this work is very inadequate with regard to periodic

accounts. There is little purpose in such an analysis since existing shortcomings in the work of agricultural enterprises are recognized but hardly eliminated.

Here are some examples in the sovkhozes of the republic's agricultural ministry. In examining the results of their activities for 1981 it was noted in higher organs that the plan for the production and sale to the state of sugar beets, cotton, fruit and all types of animal products was not fulfilled, and that as a result of this 21.3 million rubles of profits were lost. This was brought about by a decrease in the productivity of agricultural crops and of livestock as well as by the presence of above-plan expenditures for their production. The actual cost of production surpassed the plan by 75.2 million rubles. Non-production expenditures and production losses alone comprised almost 28 million rubles, which is significantly more than the total profits that were not obtained.

In 1982 the shortcomings of the preceding year were repeated. Moreover, their effect intensified. Once again the plan for the production and sale to the state of grain, sugar beets, cotton, fruit, grapes, seed of perennial grasses and all types of animal products was not fulfilled. The actual cost of production surpassed the plan by 77.6 million rubles. Instead of having profits totalling 49.7 million rubles sovkhozes completed the year with a loss of 4.3 million rubles and with a shortage of their own turnover capital of 50 million rubles. Only one-third of sovkhozes secured the fulfillment of plan indicators, including with regard to profits. Non-production expenses and losses due to the death of livestock increased rather than decreased.

There was also an increase in losses coming from production that did not yield products, from the writing off of debts, from the payment of fines and forfeits for breach of contracts and from other expenses. There has been almost no curtailment of losses in the harvest and in products in the course of harvesting, storage and transportation to procurement points and the trade network. Moreover, because of the untimely shipment of perishable goods by procurers a large quantity of these are fed to livestock. Losses to enterprises only from the storage of grain, sugar beets, potatoes, vegetables, melons, fruit, milk, eggs and other products comprised 7,900 tons worth 630,000 rubles. These losses would not have to exist if the reception of products was organized locally within sovkhozes at the place of production, with export using vehicles belonging to the procurement organization according to the scheme: field--plant or field--store.

There has been no decrease in the barrenness of the maternal herd of cattle and sheep, which affected the productivity of livestock to a considerable degree. Whereas during the first year of the 11th Five-Year Plan the republic's sovkhozes had 17,200 barren cows, during the second year this herd increased to 17,900 head, which was the reason for a decrease in milk yield per one forage cow of 54 kilograms annually. There was a total underproduction of milk from the barren herd of cows of 44,700 tons or 14.4 million rubles according to average procurement prices. In addition, expenditures for the upkeep of these cows, which can be classified almost totally as low-grade, comprised 16.6 million rubles.

A similar situation developed last year as well.

Most of the sovkhozes in our republic specialize in products from sheep raising. About half of all monetary income comes from the sale of wool, mutton and young pedigree sheep. It would seem that special attention would be given to this branch but even here shortcomings existing in preceding years are not eliminated. As noted earlier, sovkhozes have not fulfilled quotas for the sale to the state of all types of animal products, including an underproduction of 703 tons of wool alone. An analysis of the work of this branch attests to the fact that sovkhozes had the opportunity to secure the fulfillment of the plan if they had been able to decrease the death of sheep until shaving at least by half. Written off to cattle plague were 429,000 sheep prior to shaving; 1,460 tons of wool worth almost 12 million rubles could have been obtained from them. In those places where an analysis of cattle plague was made and where measures were taken in a timely manner to preserve the herd such losses do not exist and the quotas for the sale of wool have been overfulfilled.

With the goal of strengthening cost accounting in kolkhozes and sovkhozes and of strengthening their material interest in increasing output and improving the quality of production, the CPSU Central Committee and the USSR Council of Ministers are giving considerable attention to improving procurement prices for agricultural products. These prices have been established for all types of products depending on their quality. The higher the quality the higher the price and consequently the higher the earnings from the sale of products by procurers. Thus, sovkhoz profits are directly related to production quality, which remain almost totally within the enterprise's jurisdiction according to existing laws. Over half of the profits are directed into funds of material incentives and economic stimulation and the remainder--into expanding and strengthening the economy of the enterprise. It follows that production quality must always remain in the viewing field of directors, specialists and economic services of kolkhozes and sovkhozes. An analysis of quality must be made for each batch sent to be sold.

However, as practice shows, this question is also not being given sufficient attention. According to data for 1982 losses from a decrease in production quality in sovkhozes and kolkhozes totalled several tens of millions of rubles. Of the total quantity of grain sold to the state only 5.3 percent was of an especially valuable varieties; potatoes--10.3 percent; and fruit--10 percent. Forty seven percent of the milk that was delivered was first class, 35.3 percent of the sheep and 40.3 percent of the cattle was in the best nutritional state and 66.5 percent of the wool was normal. If 70 percent of the products sold by sovkhozes were of the best quality, and many enterprises are planning a much higher indicator, then added income from this, according to the most modest calculations, would exceed 50 million rubles.

Are there possibilities for raising production quality? It turns out that there are many. Here is just one example. The sale of normal wool can be increased to 90-95 percent. To do this only the marking of sheep with paint would have to be eliminated. In many enterprises this is still done with oil-based and other paints that are difficult to remove and as a result there is a decrease in wool quality. With an economic approach to production output,

to harvesting and to the preparation of products for sale all enterprises have great possibilities for increasing the quality and thus the final results of activities--profits.

The aforementioned examples evidently attest to the availability of great reserves and unused possibilities for increasing production, for improving quality and for decreasing the cost of production output. With the full mobilization of these reserves, on the basis of improving the level of management and accounts and with a strengthening of control and economic work by systematically conducting analytical work it is possible to achieve a successful fulfillment and overfulfillment of production output. This will be the contribution to the implementation of the Food Program.

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AGRICULTURAL MACHINERY AND EQUIPMENT

FURTHER DEVELOPMENT OF AGRICULTURAL MACHINEBUILDING VIEWED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 3 Dec 83 p 2

[Article by A. Yezhevskiy, USSR minister of tractor and agricultural machine building: "Twofold Acceleration"]

[Text] It may be said without any exaggeration that tractor and agricultural machine building is now undergoing its rebirth. Substantial resources have been allotted for its development: 147 plants are being rebuilt, and 19 new ones are being constructed. Of course, expansion of the potential of this branch and its technical retooling are not an aim in itself, rather a means for solving the tasks that the Food Program has set for machine building.

We will have to nearly double the present horsepower rating of the machinery built, which will require considerable effort. But this alone will not be a sufficient condition for the complete mechanization of farm production, the task specified in the recent Decree of the CPSU Central Committee and the USSR Council of Ministers on Measures to Raise Further the Technical Level and Quality of Agricultural Machinery and Equipment, to Improve Their Utilization, and to Increase Their Output and Deliveries in 1983-1990. To cope with this task it will be necessary to master the production of the entire list of implements and mechanisms required for the complete mechanization of agriculture. Today we are producing only about 60 percent of this list, and therefore many of the operations are still being performed by hand. It is essential to eliminate these gaps.

Finally, we must discharge one more debt we owe to rural workers, by remedying the causes of their complaints regarding the quality and reliability of the machinery. The problem is a big and serious one. The engine life of the basic tractor units, for example, must be increased from between 5,000 and 6,000 hours to between 8,000 and 10,000 hours of operation, and the reliabilility of farm machinery must be increased 1.5- to 2-fold.

These are the basic tasks confronting the industry. Despite the differences in terms of planning, their solutions are essentially the same: the building of new machinery. At least 600 types of new and modernized machinery are to be developed and assigned to production. A simple calculation shows that for this we must at least halve the traditional lead time for the development and production of the machines and mechanisms.

And therein lies the very essence of the branch's qualitative reconstruction, which must take place parallel with the increase of its technical and production potential. For we cannot rely on the influx of additional workers and specialists to the enterprises; actually we must double our growth rate with our present work force. Therefore our efforts must be directed primarily toward the intensification of production and higher labor productivity. Specifically this is the aim of the branch's 62 comprehensive target programs.

From the very beginning, we have strived to clearly define the breakdown of the tasks. In the course of this we not only specified for each machine who is to develop it and when, and which plant is to undertake its series production and in what volumes, but we also calculated the average labor intensity of its production. I will frankly admit that this required considerable effort. But it was worth it. We now have the facts and figures at hand to estimate the volume of work involved, and are able to approach in a differentiated manner the development of each designing bureau and scientific research institute or the solution of other timely problems.

Consider, say, the task of training additional engineers. With the USSR Ministry of Higher and Secondary Specialized Education, we designated the 18 institutes that are to train young specialists for our branch. It is clearly understood at the ministry and locally as well how these graduates will be allocated. It is not only understood, but preparations are being made to create for the young specialists conditions that will enable them to quickly acclimatize and join in the work. The system of retraining personnel is founded on these same principles.

Jointly with the USSR State Committee for Science and Technology, a number of measures have been adopted aimed at increasing the efficiency of the scientific research and designing organizations. These include first of all the introduction of computer-aided design. A comprehensive program has been elaborated for developing an automated design system (SAPR). It calls for 127 applications programs at 39 enterprises. On the basis of 83 sets of automated work stations, computer hardware and other aids, 25 functional and 19 comprehensive systems will be formed. By the end of the next five-year plan we intend to convert to SAPRs up to 20 percent of all design work. This will raise the labor productivity of designers and technologists by 30 to 40 percent, saving over 30 million rubles.

When speaking of the contributions of science toward the development of new machinery, we cannot fail to mention an important requirement that practice itself has raised: all this work must be done in close contact with the scientific research organizations of the USSR Ministry of Agriculture and of the USSR State Committee for the Supply of Production Equipment for Agriculture.

We are striving to organically combine the skillful formation of the branch's engineering personnel and the procurement of modern means of automation for them, with efforts to give the specialists economic incentives to develop new machinery. Posts of higher-grade designers and additional pay for higher qualifications are being introduced in the branch, bonuses are being offered for the elaboration of the more important projects under the comprehensive target programs, and the rights and obligations of the general and chief designers

are being increased for not only developing new machines, but for introducing their series production as well.

At one time we carefully studied the experience with the brigade form of work organization and remuneration for designers and technologists, at the Ulyanovsk State Special Designing Bureau for Heavy Machine Tools and Milling Machines, and then we introduced this form experimentally at the Tashkent Tekhnolog Scientific Production Asscciation. Practice has convinced us that this is a progressive form that can raise considerably the technical level and quality of the design studies and shorten the time required for them. Now five more planning and design, and technological organizations have changed over to the brigade form of work organization.

We are planning to employ more widely the lump wage payment system. As of next year, a number of the branch's leading collectives will join the experiment begun recently at enterprises in Leningrad. Its essence is to complete with fewer engineers and designers, well, and in less time, the assignments for the development of new machinery.

The birth of a new machine, however, only begins at the drawing board. The fruit of the designing collective's creative search must assume the form of an experimental model, which must then be tested, its miscalculations and faults corrected, and a new version built and tested again. To accelerate this process, we will increase the capacity of the experimental centers through reconstructions, and will shorten the testing time by supplementing the field tests with the testing of the machines and their subassemblies on test stands. With this method the experts of the Rostov Agricultural Machinery Plant, for example, have been able to shorten the development time of the Don combine by about one year.

We would like to emphasize that this collective is actively preparing to build the new combine, without reducing the production rate of the Niva combines. It has completed ahead of schedule one of its socialist pledges: since the beginning of this year, over 750 of these machines in excess of the plan have rolled off the main production line.

This entire set of measures makes it possible to intensify considerably the process of developing new machinery. However, the development in due time of a progressive design and the construction of experimental models solve only half of the problem. Our final objective is series production. To achieve this, production must become substantially more receptive to mastering the output of new machinery.

The first and foremost problem in our branch is the rapid retooling of the enterprises. Its solution depends on the mobility of the production-preparing service. At one time, regrettably, the importance of this department was underestimated, and today the capacity of the tool shops is hardly sufficient to replace the tools that become unusable. Every attempt at production modernization, not to mention its innovation, encounters problems that are difficult to resolve. Therefore a policy must be pursued that calls for a radical improvement of this situation.

A program has been elaborated to fully satisfy the demand of the branch for tools and industrial supplies of any complexity, by developing tool production and also by using the available capacities more efficiently. The plants' own output of equipment is to increase sharply. We are preparing to considerably exceed already next year the plan for the production of tools and fixtures.

At the same time we are fully aware that even these efforts will fail if the nature of production remains unchanged. The point is that more than half of the equipment to be made will be produced in small series. The list of products per plant will be ten or more. Such variability can be ensured only if the organization of production is sufficiently flexible from the very beginning. Therefore we are planning to widely introduce robots, and flexible production systems and modules at the enterprises of our branch.

We are about to enter into 1984, with its stepped-up targets. They call for a significant increase in the production of powerful tractors and implements for them, of equipment for soil conservation, and of machinery for the application of manufactured fertilizers and the introduction of industry-like agricultural technology. To radically accelerate scientific and technological progress in agriculture, we are planning to master the production of 115 types of new equipment.

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TILLING AND CROPPING TECHNOLOGY

PROGRESS, PROBLEMS IN ORGANIC FERTILIZER PRODUCTION

Moscow SOVETSKAYA ROSSIYA in Russian 3 Apr 84 p 1

[Article by G. Yur'yev: "Fertilizer 'Factories'"]

[Text] The delivery and application of organic fertilizer is a most important agrotechnical method securing a significant increase in agricultural production output. Scientists have calculated that the application of the optimum amount of compost to the soil provides up to a 50 percent increase in the harvest per hectare.

Last year a record quantity of organic fertilizer was delivered to Russian plowland--558 million tons; and in January, February and March--220 million tons. This work was particularly successful in Belgorod, Volgograd, Penza and Ulyanov oblasts. However, a number of oblasts have tolerated lags in comparison to the same period last year. This includes Gorkiy, Voronezh, Rostov, Tyumen and Kirov oblasts, where workers could not organize the necessary preparation of compost.

There are also great contrasts in the application of fertilizer. Whereas in Moscow, Leningrad, Kaliningrad, Ivanovo and Novgorod oblasts 9-20 tons of organic fertilizer are applied per hectare, in Saratov, Orenburg, Omsk, Novosibirsk, Amur and Chita oblasts no more than 2 tons are applied. It is evident that in lagging regions not only Sel'khozkhimiya [Agricultural chemical association] but also Sel'khoztekhnika [Agricultural Equipment Association] and reclamation and transportation enterprises must be included in the delivery and application of fertilizer.

Shortcomings in the procurement of peat are hindering work with fertilizers. In Kirov Oblast, for example, with a planned quota of 6.4 million tons, in 1983 only 2 million tons of peat were produced. Yet its reserves here exceed a billion tons! In Sverdlov Oblast only half of the planned quantity of peat was procured. Another extreme is its wasteful use. Last year the enterprises of the RSFSR exported 97.5 million tons of peat but used only 62.6 million tons for composting and as bedding for livestock. Reclamation workers of Glavnechernozemvodstroy [Main administration for hydraulic engineering building in the Non-Chernozem Zone] apply 15-17 million tons of pure peat to land each season. But it is well-known that its effectiveness in this case is extremely low. The enterprises of Ptitseprom [Poultry industry trust] are also under-

supplied with a great quantity of valuable raw material that can be used to make compost. With an annual plan of 3.3 million tons of peat, agricultural organs allocated them only 100,000 tons in January and February.

The production of fertilizer on an industrial basis is also being hindered by the shortage of concrete manure storage facilities for composting. Whereas in Kalinin, Ivanovo and Arkhangel oblasts great attention is focused on their building, in Ural, Western Siberian, Eastern Siberian and Far Eastern regions last year's quota was fulfilled by an average of 17 percent. Yet it was planned to significantly increase the number of fertilizer "factories" during the current five-year plan. In order to correct the situation it is essential to recruit partners in the agro-industrial complex for the building of manure storage facilities and special platforms.

The concern for increasing the production of peat-manure compost reflects concern for the new harvest. There are many examples of skilfull solutions to the problem. Fertilizer is prepared on an industrial base, for example, in Leningrad's Novyy Svet Sovkhoz. The fertilizer "factory," operating in double shifts, produces 650 tons of compost daily. Labor expenditures are minimal--all operations are completed with the aid of mechanisms.

The accumulation of mineral fertilizers continues in kolkhozes and sovkhozes. However, their delivery is disrupted by some of the plants of the ministry of mineral fertilizer production. For example, the Cherepovetskiy Nitrogen-Mineral Fertilizer Plant (Vologda Oblast) fulfilled its goals for the first quarter only by half. The Rossoshanskiy Chemical Plant and the Tol'yattiazot and Azot production associations (city of Novgorod) are behind schedule in unloading products. The Pikalevsk Glinozem [Aluminum oxide] (Leningrad Oblast) association did not deliver tens of thousands of tons of liming materials. The disruption of deliveries hinders farmers from achieving growth in field productivity. Work must be organized in such a way as to have agricultural and industrial fertilizer "factories" become dependable sources of fertility in the soil.

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PRODUCTION, EFFICIENT USE OF ORGANIC FERTILIZERS

Moscow KHIMIYA V SEL'SKOM KHOZYAYSTVE in Russian No 5, May 83 pp 18-21

[Article by P. D. Popov, director of VNIPTIOU [All-union scientific research and planning institute of organic fertilizer]: "Prospects for Technological Production and the Efficient Use of Organic Fertilizers"]

[Text] We know that one of the most important indicators of soil fertility is its humus content. The generalizations and research made by our institute show that on most of the country's plowland the reserves of organic substances and humus are decreasing, especially in regions with water and wind erosion. Humus losses 50-100 years after the assimilation of the soil as plowland comprised: in the Central Nonchernozem Zone of the USSR--0.3-1 percent; in the Central Chernozem Zone of the RSFSR--1.5-3 percent; in the chernozem region of the Ukraine--1-2 percent; in the Transvolga--0.7-1.2 percent; on southern chernozem, chestnut and brown semi-desert soils--0.3-0.7 percent and on Caucasus chernozems--0.6-1 percent. A decrease in the humus content of soil is continuing in Kazakhstan and in the republics of Central Asia and the Transcaucasus.

At the present time in our country's basic plowland--soddy podzolic soils of a loamy consistency--humus content does not exceed 2 percent, and on sandy loam and sandy soils--1.5 percent, whereas in order to obtain guaranteed planned yields it should equal 1.8-2.5 and 1.5-2 percent respectively.

We can judge the complexity of the problem of improving the humus composition of soils by the fact that in the country as a whole the average annual use of organic fertilizer comprises only 3.6 tons per hectare, and in the RSFSR even less--2.8 tons per hectare. In comparison with 1960 there has been a decrease in the area in perennial grasses, pure fallow and green manure crops. Almost yearly the plan for the introduction of new deposits and for the extraction of peat are not fulfilled. For example, during the 10th Five-Year Plan the plan for the preparation of peat bogs was fulfilled by less than half. Livestock farms and complexes have few manure storage facilities--although their supply in the country comprises 67 percent, many are of a low quality and low productivity. Only 7 percent of manure storage facilities meet the requirements of industrial production technology for organic fertilizer. In addition, in some agricultural regions located on more fertile chernozems and grey forest soils considerable attention is focused on mineral fertilizer while organic

fertilizers are unjustifiably undervalued. The founder of Soviet agrochemistry, D. N. Pryanishnikov, confirmed that there was no point in trying to solve the problem of nitrogen as fertilizer only by means of mineral fertilizers. Organic nitrogen should comprise two-thirds of all nitrogen applied to a plant. Here in actuality no more than one-third comes from this source.

No less important are questions on the quality of organic fertilizers and of their application. We became acquainted with the qualitative indicators of organic fertilizers applied in Vladimir Oblast for the 1982 harvest. A large portion of these is not up to standard; the fertilizers contain many weeds. Using the example of the enterprises in Vladimir Oblast it has been determined that harvest losses during extensive weed infestation of fields can reach 12-15 quintals of grain per hectare or 80-100 quintals of potatoes or vegetable crops per hectare.

Over half of the organic fertilizers in the country are taken into the fields during the winter and early spring periods. We all know the shortcomings in using organic fertilizer in the winter, but spring application also has its negative aspects. It hinders the preparation of the soil and the sowing of fertilized crops and creates stress in completing other field operations. In most cases this results in a decrease in the harvest. According to the data of a number of scientific-research facilities, a delay of 10 days in the planting of potatoes decreases its yield by 48-55 quintals per hectare; a delay of 20 days--by 72-85 quintals per hectare. In this case losses equal an additional harvest with the use of manure. A similar situation can be observed in the cultivation of other crops. In addition, the bringing out of manure during the early spring period, when the soil is soft and pliable, results in its extensive compaction, and not only cultivated plants but weeds as well do not grow on the core soil samples that develop.

The faulty practice of distributing organic fertilizer in the fields by means of bulldozers has become widespread. In this case even high norms (60-70 tons per hectare) have an insignificant effect on the harvest.

The Food Program, worked out in accordance with the decisions of the 26th CPSU Congress, foresees the organization in each enterprise of complete and efficient utilization of all existing organic fertilizer resources, the expansion of work volume to prepare compost on the basis of peat, the extraction of sapropel, and the use of solid communal waste and sediment of waste water. It is planned to increase the use of organic fertilizer in kolkhozes and sovkhozes to 1.2 billion tons in 1985 and to 1.5 billion tons in 1990 (as compared to 842 million in 1982).

The need of this country's agricultural production in organic fertilizers for the purpose of developing a non-deficit balance of soil humus with a consideration of expanding the area in perennial grasses and of raising the productivity of all agricultural crops comprises about 1.6 billion tons. An average of 7 tons per 1 hectare of plowland is required; in actuality 3.6 tons are applied, as has been mentioned above. Consequently, in the near future it is essential to double the volume of production and use of organic fertilizers.

What are the ways to solve this problem? First of all, it is planned to maximally increase the extraction of peat for use as bedding and for preparing peat-manure compost. Whereas its average annual extraction in 1971-1975 comprised 158.1 million tons and 120 million tons in 1976-1980, during the 11th Five-Year Plan it will reach 170 million tons. There will be a cessation of peat burning in electrical power stations, where at the present time 22 million tons are used up annually.

We must curtail the use of peat for fertilizer (in view of its absence or very low effectiveness). It is essential to compost peat with bird droppings as well as with the solid portion of cattle and hog manure. On the basis of bird droppings alone it will be possible to obtain 58 million tons of high quality organic fertilizer in 1983, 69 million tons in 1985 and 86 million tons in 1990. On the whole on the basis of peat it is possible to produce about 400 million tons of compost. Here it should be noted that compost production using liquid manure and manure waste are intolerable because of the high water content (in this case a large quantity of peat is required and the fertilizer turns out to be of low quality).

As regards standard peats, for fertilizer it is essential to utilize peat containing vivianite with a P_2O_5 content of from 2.5 to 28 percent. According to predictions its geologic reserves in the RSFSR alone are valued at 116 million tons.

There are many unrealized possibilities in the use of straw for fertilizer. According to the data of V. Vasil'yev (SEL'SKAYA ZHIZN', 1982, 8 December) because of the shortage of highly productive technology for the harvesting, grinding and transport of straw from the fields and for several other reasons each year about 80-100 million tons are lost. By utilizing this straw as bedding for livestock it would be possible to obtain an additional 300-350 million tons of bedding manure, which is equal to 10 million tons of grain or sugar and 40 million tons of potatoes.

In steppe and forest-steppe regions where each year a good half of the straw is not sold as feed for livestock, a portion can be used as organic fertilizer in ground form. In conjunction with bedless manure or nitrogen from mineral fertilizers straw is not only a source of carbon for the plant and of organic substance for the soil but also a complex organic fertilizer that facilitates the formation of an additional harvest of agricultural crops.

The time has come to place on an industrial base the extraction and use of sapropel as an organic fertilizer; its reserves in our country are estimated to equal 250 billion cubic meters. This fertilizer has not yet been placed in the service of agriculture--in recent years only 1 million tons have been utilized. Research and practice have shown that sapropel fertilizer can be used with significant economic effectiveness in fields located 10-20 kilometers from the location of procurement.

An important source of organic fertilizer is the wastes from the timber processing industry, comprising no fewer than 80 million tons annually. By using them as bedding and compost it is possible to produce over 200 million tons of organic fertilizer annually.

In order to raise soil fertility we must use solid municipal waste from cities, the use of which is to increase to 1.3 million tons in 1985 as well as sewer water, the total annual current of which comprises 20-21 billion cubic meters in the country.

We cannot exclude green manure from the assortment of organic fertilizers. Having emphasized cultivating it in intermediate crops we can annually plow 200-250 million tons of organic plant mass into the soil.

While increasing the production of organic fertilizers we must at the same time demonstrate constant concern for raising their quality and improving their more efficient use. At the present time about one-third of the manure (250-300 million tons) is produced in large livestock complexes. Basically this is bedless manure and in the future its quantity will continue to grow. Enormous masses of such fertilizer are lost, polluting the environment and having a negative effect on the cycle of biogenic elements in nature. The main reason for this is the absence in livestock-complex plans of shops for the production of organic fertilizer on an industrial basis.

Some complexes are built without a consideration of fundamental agrochemical requirements developed by science. Thus, significant losses to farming and the environment result from the unthought-out selection of locations to build complexes or large farms. For example, in the Pashskiy Sovkhoz of Leningrad Oblast the complex for the fattening of livestock was located 40 kilometers from the basic area of agricultural lands; the Vostochnyy Hog-Raising Complex is also far removed from these lands (in a forest swamp area).

Many complexes do not have their own land, which does not enable them to use manure efficiently. The Vladimir Tsentral'naya Poultry Factory, in which the output of bird droppings with a moisture content of 80-85 percent will comprise 150,000 tons in 1985, has only 170 hectares of plowland.

Complexes are also being built with drainage removal and biological cleaning of water from manure currents that has been diluted numerous times, which results in great non-production expenditures and a cheapening of organic fertilizer. In such enterprises manure is diluted in water 10-15 times and as a result waste water is produced. It is separated into sediment and filtrate, which is then subject to biological cleaning. All of this is costly, requires a large amount of water and worst of all, there is 70 times less nitrogen in the filtrate than in the manure.

After considering the aforementioned shortcomings as well as the positive experience of building and operating cleaning facilities in livestock complexes, GIPRONIsel'khoz [All-union state planning and scientific research institute for the model and experimental planning of agricultural production complexes and enterprises of the biological industry], together with VNIPTIOU and other institutes, has generalized and analyzed designs for the building of shops and platforms to produce organic fertilizer. This material is used in designing new and renovating old livestock-raising complexes on farms.

VNIPTIOU and other institutes are planning the development and improvement of the industrial technology for the production and use of liquid manure for agricultural crops. We feel that manure from complexes and farms must be removed with small quantities of water so that moisture content does not exeed 90 percent. In places with peat deposits such manure can be composted with peat. In regions with small reserves or with an absence of peat the separation of bedless manure into solid and liquid portions is promising. The former can be utilized for composting or (after biothermic disinfection) directly as fertilizer, and the liquid portion--for fertilization irrigation, after disinfection. In this regard the "Domodedovo system of removing and using manure" (Domodedovskiy Rayon, Moscow Oblast) is worthy of attention.

Liquid manure can be used as fertilizer directly. For shipping and applying liquid manure the most effective are: direct flow technology with the use of cistern-spreaders equipped with working organs for surface application for shipment and application; the transport of manure in pipes or via trucks to field manure storage facilities and application using field units; and the transport of manure by trucks and application using field units.

The smallest expenditure of resources in the transport of manure a distance of over 5 kilometers is achieved with the use of truck cisterns, and for application--with the use of field units having a capacity of 5-8 tons, with various types of distribution attachments. The use of large-capacity field units with low tire pressure on the soil (40-80 KPa [Kilopascals]) enables us to successfully utilize mounted attachments for the intra-soil application of liquid organic fertilizer.

According to research conducted by the Kirov affiliate of VNIPTIOU, the optimal load capacity of a field unit during the surface and intra-soil application of liquid manure should be 7-8 tons, and the pressure on the soil--not exceeding 1.5 kilogram per square meter. It was determined that the productivity of the RZhT-8 as a field unit is 3-3.5 times greater than with its use for direct flow technology. Expansion tanks are used to increase effectiveness. The expenditures for applying liquid manure according to the technological scheme using expansion tanks every 4-5 kilometers decrease by 30-32 percent in comparison with direct technology.

In our opinion, the use of organic fertilizer within the system of complex agro-chemical field cultivation is promising. This method must be combined with the chemical reclamation of soils and with the enrichment of soil with nutrients from mineral fertilizers. From an extensive link in crop rotation bare fallow must become a link in intensive farming, securing a radical improvement in soil fertility for many years. We already have positive experience with such an approach to the use of organic fertilizer. In 1982 in Vladimir Oblast the complex agrochemical cultivation of fields was completed in 38 enterprises on 40 fields. The planned harvest was achieved practically everywhere; it was almost double the size of harvests on fields where cultivation did not take place.

In our country the area in bare fallow comprises about 14 million hectares. Each year over half of organic fertilizers can be utilized within this link.

In conclusion I would like to emphasize that today science has proposed to produce a large arsenal of means and methods for improving soil fertility, yet organic fertilizer is of primary significance. Its maximal production, quality and efficient use should be given the most careful attention on the part of kolkhozes and sovkhozes on the one hand and the associations of Sel'khozkhimiya on the other. The efficient solution to these questions is the key to fulfilling the Food Program.

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BIOLOGICAL CONTROLS ASSUME LARGER ROLE IN PLANT PROTECTION

Moscow ZASHCHITA RASTENIY in Russian No 1, Jan 84 pp 3-6

[Article by V. V. Poplavskiy, deputy chief of the Agrochemical Services to Agriculture Scientific Production Association of the Plant Protection Administration: "Urgent Problems"]

[Text] With the greater specialization and intensification of agriculture, and the increasing cultivation of agricultural crops through advanced industrial technologies, which provide for larger harvests in comparison with ordinary technologies, the protection of plants from harmful organisms grows ever more important. This fact strongly underscores the responsibility of the green cross service for the quality, timeliness and effectiveness of the measures implemented by it, and also presents new requirements for its personnel: the task at hand is to not only ensure the preservation of the harvest, but also to achieve this with the safest, most intelligent methods, and with the least expenditure of labor and materials.

During the first ten months of the past year, plant protection operations were carried out over an area of almost 170 million hectares; this included efforts against pests and pathogens on 93 million ha(of this area, 21.6 million ha were subjected to biological methods of control), and against weeds on 71 million ha, as well as the use of defoliants and dessicants on more than 5 million ha. Of this total area, 19 million ha, or 12 percent, was treated by mechanized brigades from "Sel'khozkhimiya"[Agrochemical Services to Agriculture Scientific Production Association].

Highly complex, scientifically sound systems are being employed on a continually expanding basis in agricultural production to preserve grain-based cereal crops, corn, rice, sugar beets, cotton, potatoes, long-stemmed flax, leguminous, oil-bearing, melon and fruit crops, grapes, tobacco, clover and lucerne, winter rape and winter cress, hemp, protected forest plantings and seedling nurseries. These systems call for complete utilization of agrotechnical and other types of prophylactic measures designed to prevent the wide-scale development of pests, diseases and weeds. They require the broad-based introduction of resistant varieties of agricultural crops, the biological method of control, and--should this not eliminate the threat to the harvest--chemical methods as well, taking into account the economic thresholds of the hazard being dealt with.

As indicated by research within the USSR and abroad, the intelligent use of pesticides will continue to be the essential component of plant protection systems well into the future. This fact is dictated both by rapid improvement of the chemical agents themselves, and by improvement in the ways and means of their application. According to data from VNIPTEISKH[not further identified](1979), pesticide usage in our country averages less than 2 kg of active substance per hectare. This indicator is higher in many other countries; in Japan, for example, it is in excess of 23 kg, in Bulgaria--9.4 kg. This does not mean, of course, that there is need for us to extraordinarily increase the total volume of our pesticide use, but one cannot help but recognize that presently the need for chemical applications in many cases still exceeds the capabilities of industry. In addition, the ratio of the quantity of mineral fertilizers being produced to the available chemical means for plant protection is likewise far from optimal.

Due to the shortage of pesticides, no more than 50 percent of the total area under cultivation can be treated. In other countries which carry on intensive cultivation similar to ours, this indicator is considerably higher.

The application of pesticides in the USSR in all cultivated areas where such use is indicated, has permitted supplemental yields beyond the expected level of 3.2 million tons of grain-based cereal crops, 4.5 million tons sugar beets, approximately 6 million tons of potatoes, more than 3 million tons of vegetables, and other agricultural products totalling more than 4 billion rubles in value.

But the problem is not simply one of supplying chemical and biological preparations. The importance of utilizing these compounds on as broad a scale as possible and with minimal expenses cannot be overstated. Currently, much is being done in this regard by subunits of "Sel'khozkhimiya". In 1983, an investigation was conducted in the country regarding weed levels in fields, perennial plantings, cultivated meadows and pastures covering an area of 153 million ha(70 percent). This study provided the basis for compiling a clear picture of weed levels in fields in a cross-section of crops and zones, and revealed tendencies in the dynamics of weed growth. The research confirmed that agriculture continues to incur heavy losses as a result of high levels of weed growth in the fields combined with the shortage of highly effective herbicides, especially for crops grown for industrial-technological purposes.

The differentiated approach to plant protection in each individual field--and even its individual plot--is expressed in a more stringent accounting of the economic thresholds relative to pest and disease hazards, and in the use of natural means of control employing entomophages and pathogens. Suffice it to say that in 1983, the need for chemical treatments on an area of 8.5 million ha was eliminated due to the application of such useful organisms.

A good deal of attention is being directed to further development of biomethodology. The Soviet Union occupies first place in the world in the use of Trichogramma. In 1982, these organisms were applied over a total area of 13.5 million ha, and in 1983--about 14 million ha. At the present time, 1358 biolaboratories and biomanufacturing plants have been established and are in operation in the country (in 1979, the figure was 656), and the number of mechanized production lines devoted to Trichogramma production has grown from 179 to 590. Each of these lines

is capable of providing enough egg parasites to treat 30,000 ha of cropland, with an average emergence rate of 80,000 parasites per hectare.

Other entomophages being employed on a broad scale include: Habrobracon, Pseudaphycus, Allotropa and Prospaltella; the phytophage, Phytomyza, and biological preparations such as Bactorodenticide, Dendrobacillin, Bitoxibacillin and Entobacterin also receive wide use. Ongoing efforts to perfect the technology of extended storage of Trichogramma will make it possible to propagate the species all year round.

Various types of apparatus--both terrestrial and aerial--are being developed and tested for use in the dispersal of Trichogramma.

The use of biological controls in greenhouse applications is increasing, including some which are relatively new: Aschersonia and Verticillium used against white flies, and Trichoderma for dealing with root rot; a method of vaccinating tomato plants against tobacco mosaic disease is currently being introduced. The total greenhouse area treated by these methods in 1982 amounted to 58.5 million square meters. This figure was significant in the presentation of medals representing the USSR Council of Ministers Prize awarded for the introduction and promotion of biomethodology in Uzbekistan. This republic took great strides to set an outstanding example. The use of biomethodology here increased from 447,200 ha in 1976 to 2.8 million ha in 1982, while the use of highly toxic pesticides declined from 56,900 to 33,900 tons, or by 40 percent. In the continuing struggle with cotton crop pests, costs were reduced from 24.6 to 18.9 rubles per hectare.

In Namangan Oblast, the relative importance of biological pest control increased from 19 to 59.6 percent of the total effort, while the size of the chemically treated area was reduced from 215,500 to 85,500 ha, or by a factor of 2.5. In Krasnodar Kray, Sverdlovsk, Kharkov, Cherkassy and Nikolayev oblasts, and in the Tatar ASSR, farmers are actively resorting to the use of biological controls. There are, however, some republics and oblasts where a good deal less than a total effort is being put forth to develop this safe and intelligent alternative in plant protection.

One would hope that during the coming year, this problem will be resolved, since, in a number of cases, its cause is organizational shortcomings and a lack of sufficient dedication on the part of research and production people.

In addition, the expanded use of microbiological control methods in the country is limited by unreliable supplies to the agricultural sector of such preparations in terms of both assortment and quantity, quality and timeliness of delivery. Of 14 listed biological preparations designated for specific objectives, only five are being supplied. There has been no adjustment in the release of Bactorodenticide, antibiotics, or viral and fungal preparations, including Beauveria, which is effective in dealing with the Colorado Potato Beetle. Orders for Bitoxibacillin and other bacterial entomopathogenic preparations are not being satisfactorily filled.

The research work into the genetics and selection of microbiological pest controls which is being conducted by the producers of these preparations is not at the level

that it should be in terms of their rating for biological potency, biophagic stability and technological effectiveness. The development and introduction of newly formulated entomopathogenic preparations is proceeding quite slowly: e. g., pastes and wettable powders. The problems of their extended storage and duration of effectiveness for the season of use have not been solved.

Among the new approaches being taken to plant protection is the use of sexual pheromones. The use of pheromone lures provides for a determination of the most effective period of treatment, or--when the size of the pest population is below a certain threshold value--provides an indication for dispensing with these treatments. Such factors increase the effectiveness of control measures by 20-30 percent. Pheromone lures are already being employed to determine the population density of apple codling moths, leaf-rollers, eastern codling moths and click beetles. Thanks to the use of pheromone lures on the sovkhoz, "Krylovskiy," in Voronezh Oblast, chemical treatment of 597 ha was averted in 1981, resulting in a savings of almost 1.5 tons of phosalone.

In 1982, lures baited with pheromones of the apple codling moth were employed on 855 ha, which produced a profit amounting to 51,000 rubles for the Georgian SSR. In Armenia, it was 10,000 ha, and 540,000 rubles respectively.

Last year saw the first centralized supply of lures baited with pheromones of apple, plum, and eastern codling moths, as well as leaf-rollers(600,000 units). Plant protection stations must make bold efforts to equip themselves with new, efficient survey procedures, and to train farm workers in their proper use. It is essential to augment scientific research work on the study of alternative methods for maintaining the ecological equilibrium without the use of toxic substances, particularly, through the use of juvenile hormones and sterilizing agents.

At the same time, research efforts must be redoubled in order to improve methods of prognostication and warning of pest development, and to devise remotely controlled means of gathering information utilizing computer technology. There is also need to expand present research into ways to reduce losses due to grasshoppers, rodents, root-rot, grain beetles, stem-boring pests, and grey and white rot of sunflowers.

The effort to control plant pests and diseases of agricultural crops grown for industrial purposes presents a special problem. This is another area which should be made the subject of investigation by scientific bodies. First off is the need to evaluate and develop the agrotechnological, operational management, and other prophylactic measures involved in the effort. More attention should be given to the development of agricultural cultivars which are resistant to pests and diseases. In recent times, 24 highly toxic and environmentally persistent preparations have been removed from stockpiles of available pesticides and replaced by 32 low-toxicity preparations. The investigation of similar preparations with the aim of replacing outdated types must be continued. There are current limitations on the variety of herbicides available for use on rice, potato, sugar beet, cotton and other crops, while for the most part there is no production of herbicides for use on soybean and sunflower crops. Another serious problem is the fact that the agricultural sector does not have at its disposal an adequate fleet of modern, highly efficient machinery for use in plant protection operations; no more than 55-60 percent of existing needs for such equipment is currently being satisfied.

There is much which should be done during the fourth year of the present Five-Year Plan in order to improve the operations of the green cross service. Special Order No. 82, "On Increasing the Operational Efficiency of Plant Protection Stations," has been issued, which outlines specific measures in this area designed to improve the operation of the plant protection service. Right now, at the beginning of the year, it would be especially appropriate to accentuate the issue of increasing the responsibility of the plant protection people for eliminating early blight diseases.

Last year, even with complete availability of seed-treatment facilities, there were cases of grain being supplied with blight contamination. The only possible explanation for this is failure to observe proper seed-treatment procedures, or--which is absolutely intolerable--the sowing of untreated seed.

Not all kolkhozes and sovkhozes are conducting the mapping of fields to determine weed levels, which reduces the efficiency of herbicide usage. There is still a great deal which needs to be done in providing for cost-effective, intelligent and efficient utilization of chemical and biological means of plant protection.

9481
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TILLING AND CROPPING TECHNOLOGY

CALL FOR INCREASED EFFORT IN RAISING OF PULSE CROPS

Moscow SEL'SKAYA ZHIZN' in Russian 7 Apr 84 p 1

[Article by A. Zelenov, general director of the NPO [Scientific Production Association] for Pulse and Groats Crops, A. Isayev, director of the agricultural department of VNII [All-Union Scientific Research Institute] of Pulse and Groats Crops, and Ye. Sinitsyn, leading agronomist of the Main Administration of Grain Crops and on General Questions of Agriculture of USSR MSKh [Ministry of Agriculture]: "Increasing the Production of Pulse Crops"]

[Text] In comparison to cereals, pulse crops contain 1.5-2 times more protein, and in protein output per hectare they surpass barley by a factor of 1.7 and oats by a factor of 1.9. Another important advantage of theirs is that they form protein mainly by means of synthesized atmospheric nitrogen. Consequently, they have no great need for the nitrogen in mineral fertilizer. Pulse crops are an excellent predecessor for many crops. Under conditions of the forest and forest-steppe zones of the RSFSR, Ukraine, the Northern Caucasus and the Transvolga, legumes, and especially peas, are considered the best predecessors for winter grains.

The Petrovskiy Sovkhoz of Dobrinskiy Rayon, Lipetsk Oblast, has been well-known for a long time for its large peas harvests. Twenty years ago peas were sown here on 50 hectares. Considering the growing need for protein in livestock raising and the agrotechnical role of peas, its area was increased to 800 hectares. During the years of the 10th Five-Year Plan the average productivity of this crop comprised 28.2 quintals. Peas surpassed barley in protein yield per hectare by 426 kilograms.

In many enterprises good results have been achieved with the raising of lupine. In the Leninskiy Put' Kolkhoz of Dmitrovskiy Rayon, Orlov Oblast, in 1983 17.9 quintals were produced on each of 250 hectares, and in the Kolkhoz imeni Lenin of Gus'-Khrustal'nyy Rayon, Vladimir Oblast, the yield of narrow-leafed lupine comprised 25 quintals. Each year large yields of white lupine are produced by the Menskiy Sovkhoz of Chernigov Oblast. In 1982, for example, the Kiyevskiy Mutant variety yielded up to 29.8 quintals of grain per hectare.

Positive experience related to cultivated feed beans has been accumulated in the Baltic States. In the Vandzhiogali Kolkhoz of Kaunasskiy Rayon, Lithuania, their yield is 37.5 quintals; in the Nausi Sadiba Kolkhoz of Kel'meskiy Rayon--54.3 quintals.

Deserving of attention is the work to increase the production of beans in the Georgian SSR. In the republic's kolkhozes and sovkhozes the area in this crop was increased from 5,500 to 9,800 hectares in 1983. Many enterprises collected 13-14 quintals of beans seed per hectare, and in the Shavshebskiy Sovkhoz of Goriyskiy Rayon the yield comprised 18.3 quintals. The republic has greatly overfulfilled the plan for state procurement of beans. At the present time in Georgia work is being done to increase the yield of beans to 20,000 tons.

In Saratov Oblast measures are being implemented to restore the sowing areas for lentils and to make the transition to cultivating it on an industrial basis. This year it is planned to expand the area in lentils to 30,000 hectares.

The Food Program foresees increasing the production of pulse crops to 12-14 million tons by 1985. In order to achieve this it is essential to further increase the sowing area and to raise the level of technology of cultivating pulse crops.

To do this we must first of all secure an economic use of seed. Experience shows that with a better quality preparation of the soil and an adjustment of sowing machines it is possible to successfully improve field shoot formation and on this basis to achieve a great productivity even if the sowing rate is decreased by 20 percent. It is important to this year significantly expand the area in all pulse crops and to introduce broad-row sowing of yellow and narrow-leafed lupine for grain purposes.

On soddy-podzolic, sandy loam and sandy soils that are poor in magnesium it is imperative to seek out opportunities for introducing magnesium-containing fertilizers, firstly for lupine and especially on plots where lime is used. In cases in which dolomite meal is used for liming the supplementary application of magnesium is not required.

Pulse crops utilize the after-effects of fertilizers well. This is why with a low and average cultivation of soil it is necessary to sow them following intensively-fertilized predecessors.

Pulse crops are in great need of phosphorus-potassium fertilizer, but here a consideration must be made of the fact that they utilize twice as much potassium as phosphorus. It is essential to maintain the assimilated reserves of potassium and phosphorus in the soil in a ratio of 1:2 and in a quantity that secures the achievement of the planned harvest. On limed fields the norm for applying potassium should be increased (by one-third to one-half the norm). In all cases the application of phosphorus fertilizer into the rows during sowing should be mandatory. Nitrogen fertilizers (in doses up to 90 kilograms) yield a positive effect only on soils with a low fertility level.

Of the microelements the maximal effect is achieved by the use of molybdenum, especially on acidic soils. On soddy-podzolic, grey forest and leached chernozem soils in Belorussia, the Ukraine and the RSFSR the treatment of seed with molybdenum enables farmers to produce an additional 1.2-2.4 quintals of grain per hectare. The VNII of Agricultural Microbiology has developed peat

nitragin (rizotorfin) [Bacterial fertilizer]. In contrast to soil nitragin it is technologically effective; machines for seed treatment are utilized in work with it.

In regions where pulse crops are cultivated traditionally this method protects crops from possible accidental factors which make the formation of tubers difficult. The cheapness of the preparation allows it to be used extensively. Unfortunately, the microbiological industry is assimilating the production of peat nitragin slowly, especially for lupine, peas and beans.

Seed used for sowing must be treated with TMTD, fentiuram and other preparations no later than 2 weeks prior to sowing.

In all regions cultivating pulse crops (except Western Siberia and North Kazakhstan) the sowing of peas, lupine, peavine, vetch and feed beans must take place on levelled fields and early in the schedule. The gap between pre-sowing soil cultivation and sowing must be decreased to a minimum.

It is important to place seed into the moist soil layer. In connection with this is is essential to organize systematic controls over the quality of seed placement and of pre-sowing soil preparations.

In units comprised of sowers with disc plowshares with an increase in the movement speed the depth of seed placement decreases. This is why the narrow-row sower unit must move at a speed no greater than 6 kilometers per hour, and a unit with regular row disc sowers--up to 9 kilometers per hour.

Plants must be harrowed carefully and in a timely manner prior to and following shoot formation. This simple and effective method enables us to decrease weed infestation of plants by 50-70 percent. Shoots should be harrowed during dry weather during the second half of the day with a movement speed of the unit of 4-5 kilometers at an angle to the direction of sowing.

The joint utilization of harrowing and herbicides such as prometrin and linuron provides dependable protection against weeds. For peas at the 3-6 leaf stage tropotoks (2M-4KhM) or bazagran should be used against dicotyledonous weeds. The doses for the aforementioned herbicides have been determined for each zone and recommendations have been given for them.

Perceptible losses are brought about by pea aphids, and in the southern regions--by the brukhus [Translation unknown]. During some years with conditions favorable for their development these pests can destroy a harvest of pulse crops by 50 percent and more. In connection with this it is essential to become concerned in a timely manner with the import into enterprises of poisonous chemicals and with the preparation of technology for their use. All work involving crop care and harvesting operations should be completed in optimal time.

8228
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STRUCTURAL GROWTH OF UKRAINIAN TIMBER PROCUREMENT COMPLEX

Kiev PRAVDA UKRAINY in Russian 28 Mar 84 p 2

/Article by I. Karpa, chief engineer at the Pricarpathian Production Timber Procurement Association Prikarpatles imeni 60-Letiya Sovetskoy Ukrainy, Ivano-Frankovsk Oblast: "Multiply During the Course of Consumption"/

/Text/ Twenty-five years ago the Central Committee of the Communist Party of the Ukraine supported the initiative of the Ivano-Frankovsk Oblast Party Committee with regard to the merging of the forestry and timber procurement farms and the wood-working enterprises of various departments and ministries into a single complex. The pricarpathian Prikarpatles Timber Procurement Association was created and it became a part of the UkSSR Ministry of the Timber and Wood Processing Industry. Forestry acquired a single boss, who was equally interested not only in increasing the volume of wood procurements, but also in restoring the forest resources and ensuring their efficient utilization. A quarter of a century is a short interval of time for a forest. But even during these years striking changes took place here.

The labor collectives of the Prikarpatles Association view their task as that of increasing the deliveries of wood and wood products to the national economy and ensuring that the forest resources do not become exhausted but rather are multiplied. Is this possible? Yes, it is. Over the past two decades, our timber combines have cut down 45,000 hectares of forest and planted 105,000 hectares -- an increase by a factor of more than two. During this same period of time, the timber procurement volumes of principal use decreased by a factor of 3.8 and gross output production increased by a factor of 4.1. And this was achieved exclusively as a result of initiative and enterprise.

In 1959 the departmental nature of the operations was eliminated and the forestry administration reorganized. What did this accomplish? Earlier, figuratively speaking, one party planted and grew the forest and was not interested in the final results of its labor, a second cut down the trees and cared not how they were utilized and a third party removed only the "cream" from the trees, discarding or burning the waste products. The same people,

under the new conditions for organizing labor and administering production, have a new appreciation for the forest and for each tree.

The principal all-round subunits of the production timber procurement association -- timber combines -- which include small and low-capability leskhozes /forestry farms/, lespromkhozes /timber industry farms/ and wood-working enterprises, have become fully competent and fully responsible bosses. Their collectives are carrying out all of the operations -- from procuring the seed, growing the planting stock and restoring the forests to thorough processing of the wood and consumption of the non-wood forestry products. They are interested both morally and materially in ensuring that not one branch is wasted. And this promoted a situation wherein the timber combines succeeded in developing their logistical base at a rapid rate. Within a short period of time, many capabilities were built (mainly by means of the economic method) for the thorough chemical-mechanical processing of wood and for the production of wood panels and other products. This made it possible to utilize more completely the waste products from tree felling areas, the wood from improvement cuttings and also the waste products of wood-working enterprises. It was precisely because of these actions that an increase took place in gross production volume, with a simultaneous and considerable decrease taking place in timber procurements for industrial use.

In 1980 the CPSU Central Committee approved the experience of the Ivano-Frankovsk Oblast Party Committee with regard to mobilizing the collective of the Prikarpatles Association towards achieving more efficient management on forest lands. At about this same time, we were truly drawing closer to the use of a waste-free technology: the level of use of all wood bulk amounted to 94 percent. The high evaluation assigned by the party's central committee inspired the collectives to performing even more purposeful work.

Based upon the initiative and active participation of the oblast party committee, the oblast executive committee and also scientists attached to a number of scientific institutes, the all-round special purpose scientific-production program Les was developed for the 1981-1985 period. It defined the organizational-political and engineering-economic measures for achieving further improvements in the efficiency of use of forest raw material resources, a waste-free production technology and accelerated and high quality restoration of the forests. The program outlined a rather high goal: to increase the production of marketable products by 45 percent -- from 211.3 million rubles in 1981 to 306.2 million rubles in 1985. Roughly one half of this amount -- 147 million rubles (an increase of 40 percent) must be used for furniture. Special attention was given to the thrifty consumption of wood. The plans call for a savings of not less than 600,000 cubic meters of conventional materials through the use of waste products from felling areas, sawdust and the waste products of wood-working operations.

After adopting the program, the collectives of the timber combine launched an efficient socialist competition directed towards implementing the plans. The organizational and mass political work of the party organizations and production commanders in connection with the Les Program is stimulating creativity on a mass scale. In accordance with the example set by the collective at the Nadvornaya Timber Combine, a socialist competition has been

launched under the slogan "To Operate Without Waste Products." Having joined in this movement, the all-round timber procurement brigade of Hero of Socialist Labor I. Gorfinyak at the Bolekhov Timber Combine has sponsored the initiative of achieving an increase in the wood yield from a hectare by reducing the height of the stumps compared to the norm. It would appear that this is a small matter and yet when measured for the association as a whole it furnishes many thousands of additional cubic meters of wood. All of the collectives are following the initiative of the Kolomyya Timber Combine -- to compete for achieving the highest survivability in the forest crops and that of the Snyatyn Timber Combine -- for the production of furniture only of the highest quality category.

Initiative and enterprise -- a powerful motivating force. Having launched a campaign for achieving 100 percent use of the wood bulk for marketable products, the collectives of the timber combines certainly cannot tolerate a situation wherein thousands of cubic meters of valuable wood raw materials are being lost in the mountains owing to an inability to bring the materials down from the heights. Even the task of bringing down from the heights only a small portion of the wood, using antiquated methods, is causing considerable harm: the soil cover is being disturbed, channels are being forged for the runoff of torrents of water during rainy weather, landslides are forming and the soil is being displaced together with the timber. A requirement exists for building roads and ropeway-suspension units and new skidding machines and mechanisms must be introduced into operations.

Moving ahead, allow me to state: since the beginning of the five-year plan, the association has built 480 kilometers of roadway of a forest and timber hauling nature and a number of ropeway-suspension roads. This made it possible, over a period of 3 years, to remove from the mountains and use for production purposes more than 500,000 cubic meters of tree felling residue materials and low-grade wood obtained from improvement cuttings.

Additional capabilities are required for the processing of additional wood. And they have been built. Over a period of 3 years, 50.4 million rubles were invested in the development of the timber and wood-working industry. A new fibreboard panel department was built at the Osmoloda Timber Combine with a capability for producing 60,000 cubic meters and a wood flour department capable of producing 10,000 tons annually was built at the Bygoda Timber Combine. The Bolekhov and Delyatin timber combines and the Snyatyn and Pechenezhin Furniture combines have been modernized and the Kuty, Kolomyya and Solotvin timber combines, the Ivano-Frankovsk Furniture Factory and other enterprises have been re-equipped. This year a large scale production effort will be placed in operation at the Ivano-Frankovsk Timber Combine for the production of a cutting tool, a shortage of which is being experienced at wood-working and furniture enterprises.

On the whole, during the 3 year period the capabilities for producing furniture have been increased by 23 million rubles, fibreboard panels -- by 114,000 cubic meters, laminated panels -- by 1.3 million square meters and for the production of non-standard equipment -- by 1,600 tons of metal structures.

It is my opinion that mention should be made here of one important detail: in order to increase the production of furniture by 1 million rubles, the same

amount of resources should be expended throughout the country as a whole. For the republic -- 720,000 rubles and for the Prikarpatles Association -- only 400,000-500,000 rubles. The savings in resources are notable when one takes into account the fact that furniture production by the association increased by a factor of 25 over the past 25 years.

A large amount of funds -- 42 million rubles -- were invested in the development of forestry. In the interest of improving the quality of the forestry raw materials, rapid-growing trees of valuable technical strains were planted on an area of 1,130 hectares; an industrial plantation of wood strains having an accelerated felling rotation was created on 27 hectares; highly valuable and highly productive strains of trees were planted on 117 hectares in place of low value strains. The survivability of the timber crops reached 97 percent. Typically, roughly one half of all of the expenditures for the restoration and development of the economy is covered by means of the cost accounting activities of the association's enterprises.

An important national economic and natural protection complex -- the Carpathian forests -- is being developed on a scientific basis, in a rapid manner and on a planned basis and with annual increases taking place in the deliveries of timber raw materials to the national economy. The forests are now being tended better and improvements have taken place in the animal world found therein.

As is well known, a forest consists not only of wood. Over a period of 3 years, the subsidiary farms of enterprises produced 860 tons of meat, 70 tons of honey, 5 million standard cans of fruit and berry canned goods and many other food products valued at 12.4 million rubles.

The plans called for in the Les Program for the construction of social projects are being carried out successfully. It is sufficient to state that the task of the five-year plan for placing housing in operation has already been overfulfilled by a factor of 1.2.

All new construction, modernization and the technical reequipping of enterprises are once again being carried out with the aid of mass initiatives, worker creativity and enterprise on the part of leaders of all ranks. In what manner is this being manifested specifically? It is possible, for example, to advocate new construction or modernization and to sit and wait for state capital investments and a planning contractor. Unfortunately, there are still some leaders who are following this procedure. Yet construction can be carried out using above-plan profits and credit extended by Gosbank. By raising labor productivity, it is possible to release workers from the principal production operations, create "one's own" construction brigades, procure stone in the mountains and gravel from the rivers and to find other materials and to carry out construction using the economic method. We have been doing precisely this for many years and it has aided us in successfully carrying out the decisions of the 26th Congress and subsequent plenums of the CPSU Central Committee.

The association's collective completed ahead of schedule its task for the three years of the five-year plan in terms of all indicators. The rate of growth for production was 20.9, compared to a task figure of 17.1 percent;

labor productivity -- 17.7 against a plan calling for 15.1 percent. The production of goods of the highest category of quality was raised to 40.8, furniture -- to 72 percent. For the production of marketable products, use was made of 1.2 million cubic meters of wood waste products and the level of use of wood bulk was 95.2 percent, compared to the obligation for the five-year plan of 96 percent.

The results already achieved are by no means limits. The internal reserves have been taken into account in the socialist obligations of the labor collectives for 1984. Based upon an increase in labor productivity alone, it is expected that the following product amounts will be produced over and above the plan: 1.2 million rubles worth of furniture, 2,500 cubic meters of fibreboard panels, 3,800 cubic meters of saw timber and 7,400 cubic meters of lumber.

The operational results of the initial months of this current year reveal that a fine start has been made, that all of the collectives are performing in a shock manner and that the planned tasks are being carried out successfully.

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