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USSR Report

AGRICULTURE

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16 MAY 1986

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AGRICULTURE

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MAJOR CROP PROGRESS AND WEATHER REPORTING

PROGRESS, PROBLEMS IN RAISING SEED QUALITY NOTED

Moscow MUKOMOLNO-ELEVATORNAYA I KOMBIKORMOVAYA PROMYSHLENNOST in Russian No 2, Feb 86 pp 1-3

[Article: "High Quality of Seeds"]

[Text] The draft of the Basic Directions in the Economic and Social Development of the USSR for 1986-1990 and for the Period Until the Year 2000 determine the basic tasks of the agroindustrial complex--the attainment of a stable growth of agricultural production, the country's reliable provision with food products and agricultural raw materials and the unification of efforts on the part of all the sectors of this complex for the purpose of obtaining high end results in accordance with the USSR Food Program.

As before, the following remain key problems in agriculture: a steady buildup of grain production--the basis for the creation of the country's food and fodder stock--increase in the production of wheat of durum and strong varieties and of hulled crops, improvement in the structure of grain fodder production, rise in the gross output of pulse crops and corn and continuation of the policy of establishment of large zones of guaranteed production of grain, especially corn, on irrigated land.

In 1990 the gross output of grain is to be brought up to 250 or 255 million tons and of sunflower seeds, up to 7.4 or 7.5 million tons. This should be attained mainly through a general increase in the yield and the introduction into production of highly productive, new varieties and hybrids of agricultural crops complying with the requirements of intensive technologies, resistant to unfavorable effects of the environment and meeting the needs of the food industry.

The reality of fulfillment of these tasks lies in constructive measures to strengthen the material and technical base of agricultural production and the economy of kolkhozes and sovkhoses.

In the matter of increase in grain production a special role belongs to hybrid and high-grade seeds.

The volume of work connected with purchasing seeds, bringing them up to sowing standards, and storing, transporting and allocating them is substantial and

occupies an important place in the activity of the USSR Ministry of Grain Products. On the average, the country's kolkhozes and sovkhoses annually sow seeds of grain crops obtained from state resources on 15 to 20 percent of the areas, corn, 100 percent, oil crops, 70 to 75 percent and grass, 5 to 10 percent.

Certain difficulties for the production of high-quality seeds of grain and oil crops arose in a number of oblasts in the RSFSR, the Ukrainian SSR and the Kazakh SSR last year. Despite this the necessary quantity of high-grade seeds of spring grain crops was purchased for state resources. Collectives of grain receiving enterprises in the Ukrainian SSR, the Belorussian SSR, the Tajik SSR, the Armenian SSR and the Turkmen SSR fulfilled the plan for seed purchases. More high-grade seeds of spring wheat, oats, rice, sorghum and pulse crops, including peas, were purchased than in 1984.

Enterprises of the USSR Ministry of Grain Products have considerable experience in the treatment of seeds in the flow of their arrival. Where this experience is studied and popularized and where socialist competition among enterprises, shops and brigades is well organized, high-quality seeds are prepared on schedule.

Grain receiving enterprises in the Georgian SSR, the Azerbaijan SSR and the Armenian SSR completed ahead of schedule the preparation of high-grade and hybrid seeds of spring grain crops (without corn) for spring sowing in 1986. At the same time, 93 to 95 percent of seeds of first and second sowing standard categories were obtained. Grain receiving enterprises in the Ukrainian SSR, the Belorussian SSR, the Lithuanian SSR, the Moldavian SSR and the Tajik SSR prepared seeds at good rates.

Many grain receiving enterprises of the Kursk Administration of Grain Products (Comrade Khizhnyakov, chief) prepared basically first- and second-category seeds. With treatment the Psel Grain Receiving Enterprise obtained 98 percent of first- and second-category seeds and Krivets, Okhochevka, Svobodninskiy and Cheremsinoovo enterprises, 100 percent, whereas Dmitriyev, Kostornenskiy, Lukashevka and Rylysk grain receiving enterprises did not prepare a single ton of high-quality seeds of spring grain crops of first and second categories. On 15 November 1985 grain receiving enterprises of the Rovno Administration of Grain Products (Comrade Pelekh, chief) in the Ukrainian SSR completed the preparation of high-grade seeds of spring grain crops (without corn) and obtained 100 percent of standard seeds in terms of all indicators, of which 98 percent were classified with first and second sowing standard categories. Grain receiving enterprises of the Poltava Administration of Grain Products (Comrade Oleynik, chief), out of the available 29,800 tons of seeds of spring grain crops (without corn) prepared 21,500 tons of standard seeds, including 19,700 tons of first and second categories, or 91 percent.

At the same time, many grain receiving enterprises of the Zaporozhye Administration of Grain Products (Comrade Kabak, chief), the Kherson Administration of Grain Products (Comrade Tikhov), the Chernigov Administration of Grain Products (Comrade Andriyash, chief) and others prepared few first- and second-category seeds of spring grain crops.

Using the brigade contract in the treatment of seeds of spring grain crops, Rozhdestvenskiy and Akkul'skiy grain receiving enterprises and the Shortandy Elevator in Tselinograd Oblast, the Kiyaly Elevator and the Yavlenka Grain Receiving Enterprise in North Kazakhstan Oblast, Predgornenskiy and Zyryanovsk elevators in East Kazakhstan Oblast, the Kiev Grain Receiving Enterprise and the Oskarovka Elevator in Karaganda Oblast are completing the preparation of seeds in an organized manner and with a good yield of high-quality seeds. At the same time, this work has been dragged out intolerably at the Assinsk Grain Receiving Enterprise in Dzhambul Oblast.

The preparation of seeds is carried out at slow rates in the RSFSR Ministry of Grain Products. Some administrations of grain products tolerated significant organizational shortcomings in the preparation of seeds for spring sowing in 1986. The drying and cleaning of seeds were not carried out in the flow of acceptance, but were postponed to a later date, which, ultimately, was reflected in the quality of seeds. Grain receiving enterprises of the Kalinin Administration of Grain Products (Comrade Ilyushin, chief) with a two-shift operation of all seed cleaning plants and shops could have completed the preparation of seeds before 1 December 1985. However, only 8 out of 24 grain receiving enterprises began the treatment of seeds on schedule. Only 60 percent of the available seeds were prepared there on 15 November 1985. It should also be noted that at the end of November 10 grain receiving enterprises of the Saratov Administration of Grain Products (Comrade Bebesheko, chief) did not begin the preparation of seeds.

There was an extremely inefficient organization of the preparation of seeds of spring grain crops at grain receiving enterprises of the Chelyabinsk Administration of Grain Products (Comrade Strimlin, chief), where by the middle of November only 8 percent of all the available seeds were cleaned up to sowing standards in terms of all indicators, of the Tomsk Administration of Grain Products (Comrade Talovskiy), 21 percent, of the Tyumen Administration of Grain Products (Comrade Fomin), 22 percent, of the Ulyanovsk Administration of Grain Products (Comrade Romanov), 15.8 percent, of the Tatar Administration of Grain Products (Comrade Pronin), 18 percent, and of the Kurgan Administration of Grain Products (Comrade Rakov), 23 percent.

The quality of preparation of seeds of spring grain crops at grain receiving enterprises of the Ryazan Administration of Grain Products (Comrade Pryadko, chief), of the Kirov Administration of Grain Products (Comrade Ishutinov), of the Gorkiy Administration of Grain Products (Comrade Uralin), of the Sverdlovsk Administration of Grain Products (Comrade Skorikov), of the Perm Administration of Grain Products (Comrade Kalinin) and of the Krasnoyarsk Administration of Grain Products (Comrade Botvich, chief), where about 20 percent of the seeds meet the norms of first and second sowing standard categories, and of the Tyumen Administration of Grain Products (Comrade Fomin, chief), 10 percent, evokes special concern.

Large-scale work on the acceptance and treatment of hybrid and high-grade corn seeds was done by the collectives of plants of the USSR Ministry of Grain Products. A sufficient quantity of seeds of this crop was purchased for state resources. Enterprises of the Ukrainian SSR, the Kazakh SSR, the Moldavian SSR, the Kirghiz SSR and the Tajik SSR ministries of grain products, as well

as of the Kabardino-Balkar ASSR and Belgorod Oblast in the RSFSR, fulfilled the plans for purchases of high-grade and hybrid corn seeds.

Corn treating plants have completed the drying and threshing of seed corn ears on schedule and have begun the calibration of seeds. At the same time, a highly efficient industrial technology of treatment of corn seeds with film forming preparations is being introduced widely. For the spring sowing of 1986 no less than 500,000 tons of hybrid and high-grade corn seeds will be prepared according to this technology.

Many corn treating plants calibrate seeds ahead of schedule and obtain high-quality seeds. For example, corn treating plants in the Uzbek SSR calibrated 3,900 out of the available 4,100 tons of seeds, or 95 percent. At the same time, 90 percent of first- and second-category seeds were obtained. The Kishinev Grain Product Combine completed the drying of seed corn ears on schedule and threshed and on 1 December 1985 calibrated 2,500 tons of seeds, of which 97 percent were classified with the first category.

The Balta Grain Receiving Enterprise in Odessa Oblast fulfilled the five-year plan for purchases of hybrid and high-grade corn seeds 107 percent. From the 1985 harvest 7,900 tons of corn ears were purchased and 4,600 tons were threshed. With a 2-month plan for the calibration of 700 tons of seeds 769 tons, or 110 percent, were calibrated, all seeds being of the first category.

At the same time, some corn treating plants and shops of the RSFSR, the Ukrainian SSR and the Kazakh SSR ministries of grain products have not expanded their work on the calibration of corn seeds, which can be reflected in the quality and dates of shipment of seeds to consumers. Directors of ministries of grain products, of administrations of grain products and of enterprises must take practical measures in the very near future in order to complete the calibration of corn seeds on the dates set by the USSR Ministry of Grain Products.

Obtaining and utilizing high-quality seeds for sowing is a decisive factor for an increase in the yield of fodder crops. Enterprises of the Kirghiz SSR, the Lithuanian SSR, the Latvian SSR, and the Ukrainian SSR ministries of grain products pay much attention to problems of cleaning grass seeds.

The seed cleaning shop at the Radvilishkis Grain Receiving Enterprise in the Lithuanian SSR has successfully coped with the purchases and cleaning of seeds of cereal and leguminous pulse grass for a number of years. As a result of a good labor organization and an adjusted technological process, high-quality grass seeds are obtained here.

High-quality lucerne seeds were obtained at Belovodsk, Tokmak, Talas and Frunze grain product combines of the Kirghiz SSR Ministry of Grain Products.

Every year the USSR Ministry of Grain Products and the Ministry of Railways organize shipments of high-grade and hybrid seeds of grain and oil crops and corn to places of destination. The dates of shipment of seeds for the spring sowing of 1986 are approaching. In connection with this it is necessary to eliminate the shortcomings in this work. For example, last year some grain

receiving enterprises and administrations of grain products of the Ukrainian SSR, the Kazakh SSR and the RSFSR for various reasons delayed the shipment of seeds. In a number of cases, in violation of the Statute on the Procurement and Sale of High-Grade and Hybrid Seeds of Grain and Oil Crops, some grain receiving enterprises shipped seeds of low standards. Some grain receiving enterprises delayed the shipment of seeds, justifying this with the fact that departments and administrations of railroads of the Ministry of Railways did not allocate a sufficient number of railroad cars for their shipment. However, checks in localities have shown that grain receiving enterprises do not submit orders for the allocation of railroad cars for the shipment of seeds to places of destination on the dates set by the Ministry of Railways, or that seeds are not ready for shipment.

Together with other partners of the agroindustrial complex workers of enterprises and organizations of the USSR Ministry of Grain Products are also laying the foundation for the harvest of 1986 and of the first year of the 12th Five-Year Plan. Therefore, at grain receiving enterprises and seed cleaning plants and shops it is necessary to complete the preparation of seeds on time and to bring them up to high sowing standards. Ministries of grain products of the Union republics and administrations of grain products must intensify the control of the preparation of seeds and their prompt shipment.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

SEED SITUATION IN BELORUSSIAN SSR

Minsk SELSKAYA GAZETA in Russian 6 Oct 85 p 2

[Article: "Not Noticing What is Most Important: We Do Not Accept the Formal Reply"]

[Text] On 10 August of this year SELSKAYA GAZETA published an article entitled "In Different Languages" for the purpose of problem-solving. Its author was the senior agronomist of a seed farming group in Gantsevichskiy Rayon Agricultural Administration, A. Kleshchev, who with thorough knowledge of the situation discussed the friction between producers of seed grain and workers of procurement organizations, which occurs almost annually. In this case examples were given of the lack of coordination in the actions of Baranovichskiy Combine of Grain Products and Gantsevichskiy Rayon kolkhozes and sovkhoses, and of the cheating of farmers.

As expected, as soon as the article was published it was sent to the BSSR Ministry of Procurement for a response. The response, signed by Deputy Minister A. G. Shmantsar, reports that "such cases existed." The response was fairly extensive and it was expected that all criticisms would be treated in a business-like manner. However, this did not happen. In the response the facts presented in the article were simply corroborated. It is written that Kolkhoz imeni Kirov was paid 57,000 rubles as a supplement for quality. But why did this happen only after the rayon agricultural administration complained about injustices in the procurement ministry? The author of the response remained silent about this.

It should be noted that specialists of the Ministry of Procurement who prepared the response to the editors read the article inattentively and with disinterest. A. Kleshchev does not encroach upon GOST 12039-89. He simply proposes that the operation of the laboratory be organized in order to expedite matters. In part the author sees the solution in having workers of the procurement ministry's laboratories travel to enterprises to analyze large batches of seed of 50-60 tons. Then central shipping would use its own means of transportation to move this seed material to the combine's storehouses.

The procurers also did not notice a serious reprimand in the article--that of the necessity to annually inform the RAPO [Rayon Agroindustrial Association] in good time about which seed varieties and cultures will be procured. The

article's author speaks about this impersonally. This topic can in no case be circumvented by silence. After all, this is a fundamental question. Moreover, the workers of the agronomic service and the bookkeeping departments of enterprises often do not have many current price lists or state standards.

The procurers totally avoided with their silence the question of interrelations between state seed inspectorates and their departmental laboratories.

As a result the BSSR Ministry of Procurement composed a formal reply, somehow not seeing the problematic questions raised in the article. We hope that the editors of SELSKAYA GAZETA will still receive a business-like answer from the Ministry of Procurement and will inform its readers about it.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

UNSATISFACTORY PREPARATIONS FOR WINTER SOWING NOTED

Minsk SELSKAYA GAZETA in Russian 25 Aug 85 p 1

[Article: "Winter Sowing: Is Everything Ready for Its Implementation?"]

[Text] The winter field places increased demands on the periods and quality of work--more than 80 percent of the areas will be cultivated according to intensive technology. Sowing units are already departing for the winter wedge.

At the Same Time:

The rates of clearing fields of predecessors are low everywhere and Sennenskiy, Lioznenskiy, Dubrovenskiy, and a number of rayons in Mogilev and Minsk oblasts delay the harvesting of straw.

The rates of soil preparation for winter sowing in Brest, Gomel, Grodno, Minsk, and Mogilev oblasts evoke serious concern. The necessary number of tractors are not occupied in plowing and two-shift work is not organized everywhere. Vitebsk farms have the highest indicator--more than 80 percent of the areas of the winter wedge have been prepared here.

Such an important method in weed control as the breaking of stubble predecessors, which makes it possible to destroy 50 to 60 percent of the perennial weeds and 60 to 70 percent of the annual weeds, is overlooked. This work is done without control and only one-third of the assignment as a whole is fulfilled. In Shklovskiy, Krichevskiy, Volozhinskiy, Zelvenskiy, and a number of rayons in Vitebsk and Mogilev oblasts breaking is carried out on 10 to 15 percent of the areas.

It is necessary to accelerate the preparation of high-standard seeds of winter crops and to take measures to provide all farms with high-quality seeds. For now only 79 percent of the seeds received for testing have been classified with the first category. Sowing on the winter wedge should be carried out with first-grade seeds alone.

It is important to competently handle the resources of mineral fertilizers and plant protection agents with due regard for their remainder and arrival on

farms. Crops cultivated according to intensive technology must receive the necessary nutritional doses and be provided with protection against diseases. Special attention must be paid to organic fertilizers. It is necessary to cart out and apply the maximum quantity of composts to winter crops--the grain field will respond with an increase in the harvest.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

LAG IN PREPARATION FOR SOWING CAMPAIGN SCORED

Minsk SELSKAYA GAZETA in Russian 29 Aug 85 p 1

[Article: "Modern Technology for Winter Crops"]

[Excerpts] The well-known decree of the CPSU Central Committee and of the USSR Council of Ministers directs rural workers toward a sharp increase in the yield of grain and the introduction of advanced farming methods. In connection with this 1 million hectares of winter crops will be sown with a technological track in the republic this fall. An entire set of agrotechnical and agrochemical measures, whose object is to obtain no less than 40 quintals of grain per hectare of sown area, is being implemented. The task is serious, but fully feasible. The first experience in the mastering of advanced technologies has shown that the potentials of the grain field are significant. Many farms in all the republic's zones and oblasts, including on Mogilev and Vitebsk land, have obtained grain yields of 45 to 50 and even 60 quintals.

Sowing units have already been taken out to fields in northern rayons. Seeds have been placed in soil on 15,000 hectares of the winter wedge. Farms in Sharkovshchinskiy, Polotskiy, Orshanskiy, Miorskiy, Chashnikskiy, and a number of other rayons in Vitebsk, Mogilev, and Minsk oblasts have begun this work better than others. At the same time, it is necessary to note the serious lag in the performance of certain technological operations and a decrease in the requirements on quality, which are incompatible with the intensive field.

Practice shows that a real return on an innovation is ensured where everyone--beginning from the rank-and-file-machine operator to the farm manager--have a sense of great responsibility for work, master technology perfectly, and apply the recommendations of science and advanced experience creatively. Unfortunately, such sentiments are not prevalent everywhere. Many farms in Mogilev, Minsk, Brest, and Gomel oblasts seriously lagged behind in soil preparation and in clearing fields of predecessors during the entire August. Now, on the eve of September, a great deal has changed, forces and equipment for this work have been mobilized, and a two-shift operation in plowing has been organized. To this day, however, in Baranovichskiy, Ivatsevichskiy, and Pruzhanskiy rayons less than one-half of the plowing for the winter wedge has been done and, on the whole, Brest Oblast also lags behind in this indicator. In the republic there is not much early plowing (of the first half of August) for winter crops--about one-fourth of the areas. Large areas will have to be

sown on freshly prepared soil. Need it be said that this is a serious violation of technology and noncorrespondence to the demands of the intensive field? Such an important agrotechnical method as stubble breaking has also been overlooked. It is important in the fight for the purity of the field. One treatment alone destroys 50 to 60 percent of the perennial weeds and 60 to 70 percent of the annual weeds. Nearly all rayons in Vitebsk and Mogilev oblasts have ignored stubble breaking. Weeds have been provoked on 15 to 20 percent of the areas in Shklovskiy, Krichevskiy, Uzdenskiy, Volozhinskiy, Buda-Koshelevskiy, and Oktyabrskiy rayons.

Fertilizers make up an important component of the future rich harvest. Farms slowly receive the mineral fertilizers allocated for the harvest. Only 8.7 out of the planned 12 million tons of composts have been applied to the winter field. Farms in Luninetskiy, Stolinskiy, Baranovichskiy, Gorodokskiy, Chashnikskiy, Zhlobinskiy, Kalinkovichskiy, Oktyabrskiy, Mostovskiy, Borisovskiy, Soligorskii, Khotimskiy, and Chauskiy rayons, where a little more than one-half of the planned volumes of organic fertilizers have been plowed for the winter field, have especially lagged behind.

Everyone knows the following saying: What you sow, you will reap. The dependence of the harvest on the quality of seeds on the winter field is especially great.

In connection with the fact that carry-over stocks are not big, the bulk of the seeds are prepared from this year's harvest. Most farms and rayons have promptly seen to it that seeds are of a high quality. However, in a number of places--on farms in Dubrovenskii, Gorodokskiy, Sennenskiy, Kruglyanskiy, Kostyukovichskiy, Krasnopol'skiy, and Mogilevskiy rayons--the provision with seeds of winter crops is at the level of 75 to 80 percent of the need. Kolkhozes in Grodno, Vitebsk, and Mogilev oblasts delay the preparation of seeds. Only 50 to 70 percent of the first-category seeds have been stocked for the winter field here. Time is pressing. These oversights must be corrected promptly. High-quality seeds can yield an 20 to 30 percent increase in the harvest.

The present winter field ranks among the farmer's immediate concerns. Expanding sowing operations, it is necessary to immediately eliminate the lag in a number of rayons and oblasts in the preparation of soil and seeds and in the application of fertilizers to the winter wedge. Party bodies and managers and specialists of kolkhozes, sovkhoses, and rayon and oblast administrations of agriculture should place these operations under efficient control with a view to implementing them in a quality manner and at the best time as required according to intensive technology. The productivity of the winter field represents a significant contribution to the country's grain reserves and an integral part of the Food Program. It must be remembered that the fate of the rich harvest on the winter field is decided precisely today.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

MEASURES TO INCREASE GRAIN PRODUCTION DISCUSSED

Minsk SELSKAYA GAZETA in Russian 21 Aug 85 p 2

[Article by M. Vladimirov: "High Agrotechnology for Winter Crops"]

[Excerpts] These days farmers' attention is increasingly drawn to the winter field. After all, the future harvest, essentially, is being established now. The first output of grain during the start year of the 12th Five-Year Plan largely depends on the way farms will carry out fall sowing.

It is important to keep in mind that it is not simply a matter of a traditional agricultural campaign. The task is much more serious and very specific: It is now necessary to sow 1 million hectares of winter crops according to intensive technology on the republic's kolkhozes and sovkhoses. This requires a qualitatively new approach to this matter and an activation of literally all the components, from which the harvest is formed. It includes the selection of high-yielding varieties, placement of crops on the best predecessors, fertilizer application strictly according to norms and the planned yield, application of the system of protection of plants against pests, diseases, and weeds, and a strict observance of operations envisaged by technology. In the final analysis, everything boils down to obtaining more high-quality grain under any weather conditions on the basis of the utilization of intensive factors. The recently adopted decree of the CPSU Central Committee and the USSR Council of Ministers on the further expansion of areas of agricultural crops cultivated according to intensive technology is aimed precisely at this.

Optimum periods for the sowing of grain crops have arrived in the republic's north. A great deal has already been done for the preparation for it. However, many different measures will still have to be fulfilled. The realization of some of them has been delayed. For example, on a number of farms fields are cleared of predecessors slowly. This, in turn, is reflected in the rates in the presowing cultivation of soil.

In Vitebsk Oblast as of 19 August stubble breaking was carried out only 16 percent, and in Grodno and Mogilev oblasts, 20 to 23 percent. Thus, an underestimate of weed control by agrotechnical methods is obviously overlooked.

With intensive technologies the role of fertilizers rises especially. It should be kept in mind that we have a shortage of mineral fertilizers. It can be made up for primarily by a high-quality application of potassic and, especially, phosphoric fertilizers. It should also be taken into consideration that not a single crop is as responsive to organic fertilizers as winter rye. We have full possibilities to fertilize every hectare of winter sowing with 25 to 30 tons of composts. This must be done without fail. Undoubtedly, political informers and agitators in collectives of the Scientific Production Association for Chemical Services to Agriculture will also manifest interest in these problems, as well as in problems concerning the provision and application of fertilizers to soil and implementation of measures for the fall care of crops in strict accordance with technological requirements.

In the discussion great significance should be attached to the state of seeds. As practice shows, belta, pukhovchanka, and voskhod-1 winter rye varieties and mironovskaya-808 and berezina winter wheat varieties manifest themselves well under our conditions. The data of scientific institutions and many farms indicate that these intensive-type varieties with high-level agrotechnology can give a substantial increase in the harvest. Unfortunately, they are not fully provided everywhere. Late periods of crop ripening and insufficient carry-over seed stocks are reflected here. However, despite this it is necessary to do everything so that the entire seed stock may meet the requirements made.

The serious attention of the participants in the discussion must be drawn to the preparation of soil and to the provision of favorable conditions for a uniform placement of seeds. Many farms attain this with high-quality plowing, which should be completed 2 weeks before sowing, as well as with a careful leveling of soil and the creation of a well rolled layer. If this is not done, it means that there will be no uniform placement of seeds and, as a result, the number of productive stems will be reduced and plants will winter poorly and will not give the desired harvest.

The days remaining before sowing are especially crucial. Therefore, in the discussion it is necessary to analyze and generalize the extent to which all organizational problems are thought out on a farm and in the collective of a mechanized detachment. For example, for the performance of the entire set of operations on the Zavety Lenina Kolkhoz in Maloritskiy Rayon machine operators and sowers were selected and trained in advance. Brigade leaders also adopted a special test in intensive technology of cultivation of winter crops. A document, in which all the elements of agrotechnology were recorded, was drawn up for every field. The kolkhoz board and party committee developed and approved a plan for organizational, technological, and ideological support for the sowing campaign. A total of 28 party and 45 Komsomol members, who will form part of temporary party and Komsomol groups, will participate in it.

Such an approach to the organization of this matter is possible and necessary on all our farms. It should be kept in mind that only a strict fulfillment of technological requirements on every plot and field and the creativity and responsibility of every participant in work in winter sowing will make it possible to most efficiently utilize the productive potential of the grain field.

MAJOR CROP PROGRESS AND WEATHER REPORTING

INTENSIVE TECHNOLOGIES OF WINTER CROP CULTIVATION ADVOCATED

Minsk SELSKAYA GAZETA in Russian 31 Aug 85 p 1

[Article: "Harvest Is Established in the Fall"]

[Excerpts] The republic's farmers face a crucial task--to increase the productivity of the winter field to 40 quintals of grain per hectare and more. It is very important to obtain a high yield from material and technical resources--fertilizers, pesticides, varietal and sowing qualities of seeds, technical and labor expenditures, and rising soil fertility--invested in production. An extensive introduction of intensive technologies of cultivation of winter crops is the main path to success.

Winter crops of the 1986 harvest will be cultivated according to these technologies on almost all areas on the republic's kolkhozes and sovkhoses. Sowing is the most crucial period in the fate of the future harvest. The absolute majority of the republic's kolkhozes and sovkhoses have prepared themselves well for its implementation.

During the current year 23 percent more organic fertilizers are to be applied to winter crops than during last year. As of 29 August 1985 the assignments for the application of organic fertilizers in the republic were fulfilled 81 percent and by farms in Mogilev Oblast, 95 percent, in Vitebsk and Gomel oblasts, 84 and 83 percent respectively, in Brest and Minsk oblasts, 77 percent, and in Grodno, 72 percent.

The delivery of the necessary plant protection agents to farms is being completed and an outstripping delivery of mineral fertilizers is being made. The liming of acid soil under winter crops by associations of the Scientific Production Association for Agrochemical Services to Agriculture is to be completed by 1 September.

Almost one-half of the seeds of winter crops do not yet meet the first category of the sowing standard on farms in Lioznenskiy, Braslavskiy, Gorodokskiy, Sennenskiy, Ostrovetskiy, Kostyukovichskiy, and Krupskiy rayons.

A mass sowing of winter crops is carried out in the republic's northern rayons. Farms in central and eastern rayons will begin sowing in the next few days. According to the information of administrations of agriculture of

oblast executive committees, as of 29 August 618 kolkhozes and sovkhoses have carried out sowing and 23,500 hectares have been sown. However, sowing operations are unfolding slowly on kolkhozes and sovkhoses in Shumilinskiy, Verkhnedvinskiy, Dokshitskiy, Lepelskiy, and some other rayons, where optimum sowing periods have arrived, and about one-half of the farms have joined the sowing campaign.

Some farms repeat the mistakes of past years, do not ensure a good cultivation and leveling of areas and a prompt treatment of seeds, and commit other violations.

A number of farms in Braslavskiy, Ushachskiy, Chashnikskiy, Postavskiy, Lapelskiy, and Shumilinskiy rayons ignore the demands for sowing winter crops according to intensive technologies and leaving a permanent technological track, which can seriously affect the quality of subsequent technological operations in the care of crops.

Administrations of agriculture of rayon executive committees and local agricultural services must establish the strictest control over a prompt and high-quality implementation of the sowing of winter crops and uncover and eliminate existing organizational and technological oversights. A serious evaluation of the work of people, through whose fault gross violations of the technology of sowing operations are committed, should be made. It should be remembered that a tardy fulfillment or nonfulfillment of a specific operation in the technological cycle in the sowing and care of winter crops can minimize the efforts aimed at obtaining a high harvest. Rejects in work on the winter field are irreparable. A reliable barrier should be placed against them.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

MEASURES TO SPEED UP BASIC SOIL CULTIVATION URGED

Minsk SELSKAYA GAZETA in Russian 12 Oct 85 p 1

[Article: "The Fall Field Is in a Hurry"]

[Excerpts] There is always great tension on fall fields. However, this September and October are especially complicated for the farmer. Rain and cold have delayed work on the entire chain of the field conveyor. In northern rayons the sowing campaign on the winter wedge has been delayed longer than usually.

It should be noted that our best farms boldly follow the experiment and introduce innovations suggested by science and advanced practice. For example, the Kolkhoz imeni Gastello in Minskiy Rayon applies deep slitting and deep loosening in the set of operations connected with basic land cultivation. The expenditures on this work are not big, but the effect is substantial. Up to 700 hectares of the fall-plowed field are cultivated with only one set of slit cutters here in the fall. In the spring soil is especially cohesive, ripening for sowing a week earlier, and dew ponds and wet spots are hardly observed. The harvest of grain crops, potatoes, and sugar beets from these fields is 10 to 15 percent higher than the usual harvest. The essence of this agricultural method lies in the fact that deep loosening makes it possible to lower the moistening of the upper soil layer during wet periods and to trickle feed plants with moisture accumulated in lower horizons during dry periods.

Workers on the Kolkhoz imeni Gastello have followers in the same Minskiy Rayon. The innovation is applied in Vitebskiy, Lioznenskiy, and other rayons. On the whole, however, the practical mastering of scientific recommendations is hampered owing to the lack of the proper number of chisels and slit cutters.

With what do plowmen gladden us now? We would like to note right away that, on the whole, things could be better. The fall field has been plowed on 64 percent of the areas. The lag behind the schedule is considerable. Whereas during past years there were complaints about equipment, now this problem has been eliminated. The readiness of the tractor pool, including power-saturated machines, is higher than planned. Farms in Brest, Gomel, and Minsk oblasts plow the fall field better than others--at the level of 75 to 80 percent. This indicator is much lower among farmers in Vitebsk and Mogilev oblasts--45

to 55 percent. Nevertheless, here too there are rayons with contrasting indicators. The future spring field has been plowed on 20 to 30 percent of the areas in Beshenkovichskiy, Gorodokskiy, Dubrovenskiy, and Sennenskiy rayons. At the same time, the volumes of fall plowing are three to four times higher in Glusskiy, Kirovskiy, Bobruyskiy, Sharkovshchinskiy, Verkhnedvinskiy, and Dokshitskiy rayons.

If urgent measures to speed up basic soil cultivation are not taken, a danger of a deliberate reduction in the harvest of spring crops and potatoes is created realistically. Local party and agricultural bodies are called upon to mobilize all forces and the entire equipment for plowing for winter fallow. It must be remembered that acceptable plowing periods end in the middle of October. In agrotechnical properties later fall plowing is equated with spring plowing. A two-shift operation on caterpillar tractors and a 24-hour shift on energy saturated tractors--these are the working conditions, without which it is impossible to eliminate the lag.

Farmers know well the price of every technological operation on the grain, potato, and fodder field. In this sense primary importance is attached to the periods and quality of fall plowing. No wonder the following expression exists: Show me you arable land and I will tell you what kind of manager you are. The correctness of these words should not be doubted. The machine operator is now the chief figure in this work. We must see to it that the necessary conditions are created for him during these days, when the weather is bad sometimes. Hot food and a van in the field for rest--this is the minimum of such concerns.

This work done on the threshold of the occupational holiday--Day of Agricultural Workers--is of special significance. The results of the year and of the five-year plan as a whole depend primarily on their successful completion. To gather and preserve everything that has been grown and to deliver products to the consumer--this is the main task at this stage. At the same time, a reserve for a good start during the new 5-year period is created: The diligent manager always thinks about tomorrow and creates a reliable basis for the future harvest.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

BRIEFS

WINTER RYE SOWING--Minsk (TASS)-- Belorussia's farmers began sowing winter rye yesterday. They are introducing intensive technology on almost the entire area. Mechanized contract brigades are trying to cope with the sowing campaign in a short time and are working in two shifts. [Text] [Moscow TRUD in Russian 27 Aug 85 p 1] 11439

NONPLOW TILLAGE--On this 150-hectare field prepared by machine operators on the Dosovichi Sovkhoz, in Mogilev Oblast, winter crops were sown without a plow. Soil was loosened by the wide-cut KU-5,1 cultivator. In the opinion of specialists, such an innovation has a number of advantages over plow tillage. The density of the subsoil layer is lowered, the consumption of fuel is decreased, and the period of field preparation is shortened. Furthermore, after such cultivation the field surface remains even, which contributes to uniform shoots of crops and their good growth. Nonplow soil tillage was first applied on the sovkhoz in spring. More than 35 quintals of barley and spring wheat per hectare were threshed. On fields, where soil was cultivated traditionally, that is, with plows, the harvest was 3 to 4 quintals lower. Following the example of Dosovichi grain growers, many farms in the Dnepr area are now preparing fields for winter crops. The so-called plow sole is now to be loosened on more than 160,000 hectares, on which rye and wheat will be sown. [By BELTA correspondent] [Text] [Minsk SELSKAYA GAZETA in Russian 29 Aug 85 p 1] 11439

UNSATISFACTORY SOIL LIMING--A total of 10.4 million tons of organic fertilizers, or 86 percent of the assignment, were applied to winter crops in the republic by the beginning of September. This work is carried out at high rates by farms in Mogilev Oblast, where the assignment has been fulfilled 99.9 percent. Associations of the Rayon Scientific Production Association for Agrochemical Services to Agriculture give considerable help to farms in the application of organic fertilizers. The oblast's chemists have applied 810,000 tons of manure and composts to winter crops. An unsatisfactory situation has been created in oblasts with respect to the liming of acid soil for winter grain crops cultivated according to intensive technology. Although sowing is already going on in all oblasts, clarifications are still made here and there: Where should liming be carried out and what fields will be occupied by winter crops. This is unfinished work on the part of local agrochemical services, as well as evidence of miscalculations in the system of chemicalization of agricultural production. For example, in Brest Oblast only

1,400 out of 6,500 hectares were limed as of the third 10-day period in August. Some rayons did not even begin liming. The situation created with respect to liming for winter crops and, especially, those cultivated according to intensive technology requires an immediate activation of this work. It is necessary to work during the entire day, to apply measures of moral and material incentives more efficiently, to place the course of liming on every farm under daily control, and to pay special attention to the quality of work performance. [Excerpts] [Minsk SELSKAYA GAZETA in Russian 9 Sep 85 p 1] 11439

WINTER GRAIN CROPS--Winter crops for grain for the 1986 harvest have been sown on an area of 1.54 million hectares. Fall plowing has been carried out on 2.424 million hectares. Kolkhozes and sovkhoses have been provided with seeds of spring grain crops and their preparation for sowing standards is being completed. Mass repairs of agricultural equipment are being made. [Text] [Minsk SELSKAYA GAZETA in Russian 20 Sep 85 p 1] 11439

PEST, WEED CONTROL--An inspection of winter grain crops of first sowing periods has revealed their settlement by frit flies and leafhoppers. The pest population is higher than the threshold population--30 to 32 specimens per unit of calculation in Klimovichskiy and Gomelskiy rayons--and in Vileyskiy Rayon it reaches 150 specimens. There is also a considerable stock of pests in other rayons. When warm weather sets in, as well as when day temperatures rise up to 15 or 16°C, a severe damage to shoots is expected. Specialists of protection stations and farm agronomists must control the condition of crops and, if necessary, treat them with insecticides. Optimum periods of treatment of winter wheat and rye with herbicides cultivated according to intensive technology in Kirovskiy, Khotimskiy, Dzerzhinskiy, and Minskiy rayons are missed. This work is under the threat of disruption in Beshenkovichskiy, Ushachskiy, and Sharkovshchinskiy rayons. The prerequisites for the spread of a large number of weeds--wild camomile and sowthistle--are created here. It is necessary to organize a preshoot treatment of crops with simazine, to utilize every hour of good weather for this, and to use the equipment of farms and rayon scientific production associations for agrochemical services to agriculture in a highly productive manner. [Text] [Minsk SELSKAYA GAZETA in Russian 20 Sep 85 p 1] 11439

CONCERN ABOUT SEED UTILIZATION--Stavropol Kray--The time for sowing is approaching and we breeders are more and more concerned about the fate of the varieties we have developed. We have a basis for our concern. Judge for yourselves. Since 1985 a new spring barley variety, Prikumskiy-22, has been regionalized for the dry zone of Stavropol Kray. Already by this year the collective of our research-breeding station produced and sold enterprises about 8,000 quintals of elite seed and seed of higher reproductions. It appears that everything is in order. But the fact is that some enterprises have developed a surplus of the seed which is in short supply whereas others cannot even acquire a handful. We do not at all want to repeat the sad story of what happened with our other variety, Prikumskiy-14. Because the kray agronomic service did not organize interenterprise and interrayon exchange of seed of higher reproductions the areas in this variety grew slowly. It was painful to watch as enterprises with surplus seed sowed it on plots earmarked for feed purposes. This is not only glaring mismanagement but also complete lack of regard for the labor of breeders. [By G. Petrov, worker at Prikumskaya Testing-Breeding Station and candidate of agricultural sciences] [Text] [Moscow SELSKAYA ZHIZN in Russian 13 Mar 86 p 1] 8228

SEED PREPARATIONS--Tallin, 13 Mar 86--Estonian enterprises have been supplied with first and second class seed for spring sowing. But work with seed is continuing. It began during the past harvest period. It was already clear then that the rainfall in the southern part of the republic has made the work of seed farmers more difficult. For this reason, Gosagroprom [State Agroindustrial Committee] has obliged the agroindustrial associations of the northern regions, in which harvesting proceeded under favorable conditions, to create a special reserve of spring seed. This reserve has now helped to replenish the seed funds of many enterprises of Raplaskoye, Ryanuskoye and Valgaskoye RAPO's [Rayon Agroindustrial Associations]. The exchange of seed has also been organized within rayons. A complicated situation has developed with regard to grass seed, which was sown in a smaller number than planned due to rainy weather. At present 90 percent of seed material is first and second class. Following the example of experienced agronomists many enterprises are beginning the treatment of grass seed with dryers employing a special heat regimen. [By S. Kuznetsov] [Text] [Moscow SELSKAYA ZHIZN in Russian 14 Mar 86 p 1] 8228

CSO: 1824/255

NEED TO INCREASE FOOD PRODUCTION IN UZBEK COTTON SECTOR APK

Moscow IZVESTIYA AKADEMII NAUK SSSR SERIYA EKONOMICHESKAYA in Russian No 1,
Jan 86 pp 101-110

[Article by K. Kh. Khatamov: "Production Reserves of the Cotton-Raising Complex"]

[Text] The article examines the problems involved in increasing the ability of the agroindustrial cotton sector to provide for its own food. The analysis encompasses the technical-economic, organizational-management and social aspects of the problem. Special attention is given to questions of improving the methods and organizational structure of management, to interbranch management relations, to strengthening the effect of the economic mechanism on the mobilization and complete utilization of reserves for increasing food supplies and the entire end product of the cotton sector APK.

The development of integrated processes at all levels of the agroindustrial complex reflects the objective process of further generalizing production on the basis of strengthening technological, organizational, economic and social interrelations among its structural links. This is a lengthy process related to the systematic restructuring of methods of management and economic thought. But the opportunities to mobilize supplementary reserves of production growth are already considerable at the contemporary stage of implementing the Food Program, which foresees the dynamic and more balanced development of agriculture and of the economic branches and spheres related to it.

In the time that has elapsed since May 1982, when the Plenum of the CPSU Central Committee approved the Food Program and measures to implement it, certain positive changes have been noted in supplying the country's population with food products. At the same time, as noted at the April (1985) Plenum of the CPSU Central Committee, the results that have been achieved as concerns APK development "are still not what is required by far. We sometimes come across attempts by local organs to place all concerns regarding food supplies and especially regarding feed on the center. This kind of practice is unacceptable" (1, p 5).

The practical experience involving the efficient use of land, labor and material resources in different regions attests to the great possibilities for increasing self-supply with food on a local level as well as for supplying certain types of agricultural products to the general-union fund. In particular, large reserves in this regard are available to regional complexes specializing in the production of agricultural raw materials for industry. Thus, in the Uzbek SSR, which produces the largest share of one of the most valuable types of such raw materials--cotton--gross yield of raw cotton increased by a factor of 1.6 in 1965-1984. The production of food products increased simultaneously: of grain--fourfold, of rice and vegetables--fivefold and melon crops--threefold. At the present time about 60 percent of fruit and vegetable products are produced in agroindustrial associations. There has been significant growth in output of livestock products, first and foremost by means of the considerable strengthening of the feed base and the introduction of industrial technology with the more and more extensive utilization of new agroindustrial forms of production and possibilities for managing the private plot of the kolkhoz worker or the sovkhos employee.

The continued development of irrigated farming opens up additional possibilities for allowing enterprises of the cotton-sowing republics to replenish the country's food fund, including by means of expanding sowing area. During one decade (1974-1984) the sowing area in the Uzbek SSR increased by over 500,000 hectares. The area in corn for grain grew especially--from 96,900 to 300,000 hectares. The area in other food crops expanded as well. In the near future in the republic the sowing area which is irrigated is to increase by about 100,000 hectares annually.

However, the main reserve for achieving greater indicators for the production of food products in Uzbekistan and other cotton-sowing republics involves increasing intensification of production, acceleration of scientific-technical progress and raising the economic effectiveness of utilizing resources and of the entire production process in the APK as a whole.

As in a number of other regions of the country, increased productivity of agricultural crops and livestock production in the Uzbek SSR still does not correspond to those significant resources which are being invested in agriculture and related branches. In recent years the productivity level of agricultural crops, including food crops, has in actual fact stabilized. Thus, the productivity of spike crops (excluding corn) in the republic has equalled 10-11 quintals per hectare, of vegetables--on the level of 225-230 quintals and of grapes--on the level of 90-95 quintals per hectare. The yield of cotton has stabilized. At the same time the cost of production is growing and production profitability is increasing. Whereas in the early 1970's production profitability in kolkhozes was on the level of 40 percent, by 1981 it had decreased by a factor of 2, and in sovkhoses profits from product sales hardly covered expenses. The cost of food crops and livestock products increased dramatically. The increase in procurement prices for agricultural products, implemented as of 1 January 1983, enabled kolkhozes and sovkhoses to significantly increase income and thereby to increase savings for the purpose of expanding production. Under these conditions the best economic possibilities are created for growth in effectiveness by means of intraenterprise reserves, which are not always fully utilized. However, the

tendency toward an increase in costs and a decrease in profitability still has not been halted.

Among the reasons for the inadequate economic effectiveness of intensification of cotton-raising and food branches within the cotton sector are the slow growth of farming quality, the structural imbalance of APK branches and organizational shortcomings. Although the republic's agricultural sector is highly supplied with labor resources, a number of regions are experiencing a shortage of manpower. The production and social infrastructure of the village, the capacities of the processing industry and of storehouses and storage facilities, village building, technical and agrochemical services to agriculture, transportation and the system of product sales are lagging in their development. In connection with this, the instructions of the April 1985 Plenum of the CPSU Central Committee concerning the fact that the work being done to implement the Food Program should include serious measures to develop the processing branches of the agroindustrial complex and to bring its enterprises closer to kolkhozes and sovkhozes are especially urgent for the republic. It should be noted that the material-technical base of procurement systems is growing at a very slow pace.

An analysis shows that under the conditions which exist in the cotton sector there are great reserves for improving the structure of food branches, and above all of grain production, especially by means of increasing the proportion of corn. In recent years the corn grain harvest has equalled over 60 quintals per hectare in the republic, i. e. it was greater than the productivity of spike grains by a factor of almost 6. However, corn makes up only 23 percent of the structure of grain crops.

An analysis shows that the basic reasons for the remaining unfavorable tendencies in achieving economic efficiency as a result of intensification can be found first and foremost in the imperfections of the management mechanism, resulting in the reproduction of disproportions, departmental separateness, and the undermining of managerial independence and initiative of collectives, particularly in the area of mobilizing internal reserves to increase efficiency.

All of this gives rise to the urgent need for a multi-faceted approach to planned management, for the use of economic levers and incentives in managerial activity and for a transition of the work of all structural links within the APK (first and foremost rayon links) to genuine cost accounting. The experience of creating agroindustrial formations in the republic and the use of new principles based on genuine cost accounting in interrelations among managerial links, in labor organization and in administration indicate the path that must be followed in order to achieve a high level of economic effectiveness in the development of cotton-growing as well as in the food branches of the republic's Gosagroprom [State Agroindustrial Committee].

Essentially, the former Ministry of the Fruit and Vegetable Industry, which is now a part of the APK, is a specialized agroindustrial association. The results of its work during the last few years allows us to judge the real possibilities of agroindustrial production as it concerns the implementation of the Food Program. Basic reserves for growth in effectiveness within the

fruit and vegetable industry are found in further production concentration and specialization. Thus, by the beginning of the 11th Five-Year Plan only about 15 percent of farm lands in the fruit and vegetable industry were occupied by crops that determined the profile of the branch.

The production base of the fruit and vegetable industry system also requires further development. Despite the fact that the cost of per capita fixed capital earmarked for agriculture exceeded 6,000 rubles in 1984 (in 1980 it equalled 5,400 rubles) this indicator remains lower than average throughout the system of the USSR's fruit and vegetable industry. The same applies to the amount of power available per worker, which has remained practically unchanged between 1980 and 1984.

For the conditions of the cotton sector one of the basic and specific directions of intensification is reclamation and the efficient use of irrigated lands. The irrigated fields of Uzbekistan, comprising 3.5 million hectares, today yield over 98 percent of the harvest produced by kolkhozes and sovkhozes. The republic has 21 reservoirs with a total capacity of over 10 billion cubic meters and a large network of separate canals. Over 1,000 pumping stations deliver over 3,000 cubic meters of water per second to an area of over 1.3 million hectares. At the May 1982 and October 1984 plenums of the CPSU Central Committee the need to further increase the role of reclamation in stimulating agricultural production output was emphasized.¹ The scale of work in this direction is growing ceaselessly in the republic.

The continued development of the cotton-raising sector and an increased pace and scale of production of cotton as well as other farming and livestock products are possible only with complete industrialization and chemicalization of irrigated farming. It is essential to raise the technological level of water management building and to introduce progressive irrigation methods that will contribute to the economic consumption of water. The use of sprinklers of the cantilever type, which achieve greater sprinkling intensity, and large-drop atomization of water result in mud flow, the formation of large slopes and poor wetting of the plowing layer.

In irrigated farming land productivity depends to a large degree on the utilization of irrigation water. As we know, water for the needs of irrigation is supplied to consumers for free, which often leads to its inefficient consumption. The introduction of payments for irrigation water would serve as a source for reimbursing the state for irrigation and would stimulate the enterprise to more economically consume water and to use more efficient methods--in other words, to conserve and wisely utilize this national treasure. The system of hydraulic engineering construction is in need of considerable restructuring. It would be expedient to implement the transition of the operations of all links within this system to cost accounting, and to make the evaluation of the results of labor depend on the results of production on irrigated lands. The largest share of resources should be earmarked for improving reclamation of areas which have already been assimilated.

The systematic intensification of irrigated farming is a significant reserve for increasing grain production. The area in grains under irrigation reaches

400,000-500,000 hectares. Gross grain yield in Uzbekistan from 1975 to 1984 has more than tripled, primarily by means of irrigation farming. In the republic, with further intensification average annual productivity of corn grain could already have equalled 70-80 quintals per hectare, of rice--46 and of spike crops--25 quintals per hectare during the past five-year plan. This is attested to by data on the level of productivity in individual enterprises, which already reaches 110, 70 and 72 quintals per hectare respectively.

Among the grain and feed crops raised in the republic corn occupies one of the leading places as far as both productivity and feed properties are concerned. It is an important component of the cotton-alfalfa crop rotation and a good predecessor for cotton and other agricultural crops. A large reserve for increasing corn grain production is the sowing of hybrid seed of the first generation. The best regionalized hybrids in the first generation enable us to increase yield by 20-30 percent as compared to the standard variety when raised on fertile soil.

The assimilation of efficient crop rotations remains an important reserve for increasing the productivity of farming production. Crop rotations meet the optimal requirements of the farming system and the tasks of strengthening the feed base in livestock raising when the proportion of alfalfa in the total crop rotation is no more than 12 percent. Experience shows that the assimilation of efficient crop rotations and on this basis the general improvement of farming quality enable us to raise the productivity of 1 hectare of land in the cotton sector by no less than 15-20 percent without additional expenditures. An important condition for adhering to the proper crop rotation involves changing the practice of procurement planning, the volume and structure of which would enable us to have the necessary area for alfalfa and to exclude monocrops.

The chemicalization of farming in addition to efficient crop structure enable us to significantly increase the productivity of feed crops. In the republic feeds occupy 700,000 hectares; of this area, 430,000 hectares are in alfalfa. Nevertheless, the productivity of alfalfa, as well as of other feed crops, is growing slowly and often does not exceed 30 quintals of feed units per irrigated hectare. Practical experience shows that new varieties, fertilizers and herbicides achieve a full return in places where crop rotations have been assimilated and where the optimal scheme for the alternation of crops has been determined and adhered to.

A large reserve for increasing production within the cotton sector is the development of breeding and the strengthening of its material-technical base. However, the building of basic production objects has not been completed by far to meet these needs--breeding complexes, hothouses and facilities for the cultivation and storage of sowing material and seed. The production of small-scale equipment for the mechanization of breeding and seed-farming operations is still insufficient. Improvements in the results of breeding depend to a large extent on cooperative efforts by breeding centers and other breeding-experimental institutions, on achieving integration in operations and on unifying the efforts of specialists of various profiles--breeders, geneticists, physiologists, technologists and others.

One of the important problems is providing enterprises with high-quality feed seed. At present 80 enterprises are involved in seed farming. In order to improve work in seed farming it is essential to have qualitatively-new technology for producing quality fruit and vegetable seed for maximal mechanization of sowing, cultivation and harvesting operations, for seed selection and for bringing seed up to high sowing condition. The APK's management mechanism, incentives and interests of workers in agriculture as well as in related industries and service organizations, including scientific-research and experimental institutions, should be directed at all of this.

Livestock raising is one of the most important branches in the republic. Almost 20 percent of gross agricultural production in Uzbekistan is directed into it. During the years of the 11th Five-Year Plan average annual meat production in the republic's public sector increased by 26 percent as compared to the level of the 10th Five-Year Plan, milk production--by 25 percent and egg production--by 31 percent.

In Uzbekistan extensive measures are being implemented to develop dairy farming. After the March 1965 Plenum of the CPSU Central Committee milk production in the public sector tripled. At the same time we must increase it significantly to 200 kilograms per person in 1985. For this it is essential to increase the productivity of cows to 3,000 kilograms of milk. This task must be dealt with by means of a systematic transition of dairy farming to an industrial base, of expanding and remodeling farms and of bringing lagging enterprises up to the level of leading farms.

The APK's management mechanism must achieve the systematic coordination of centralized planning with independence, initiative and the interest of partners in better work and in a greater contribution to the end result. Centralized planning in management must be implemented on a foundation of a scientifically-based program of long-term development of the republic's APK that includes ultimate economic and social goals, the stages for implementing them and policies and basic directions of capital investments. A long-term special-purpose program cannot develop from plans of branch and territorial links because it itself is a basis and a general direction for their development.

The materials of the April 1985 Plenum of the CPSU Central Committee state: "Further improvements are also required in the management of the agroindustrial complex. Here not everything has been done by far. Under the influence of departmental interests rayon and oblast associations frequently cannot solve questions related to the integrated development of agriculture and related branches in a coordinated manner. If we are firmly convinced that the land should have a single manager and that agroindustrial associations bear the full responsibility for carrying out the Food Program, of which we feel there is no doubt, then we should implement measures which will enable us to manage, plan and finance the agroindustrial complex as a single whole at all levels (1, p 7). Today these are the main tasks of Gosagroprom [State Agroindustrial Committee]. The former UzSSR Ministry of Agriculture included over 10 independent administrations, trusts, associations and inspectorates which were directly subordinate to the ministry. These enterprises were part of the APK but were guided first and foremost not by the decisions of the RAPO

or APO [Agroindustrial association] council and in the final analysis often not by the interests of the common undertaking, but by the directives of their central departments. The republic's agricultural ministry itself limited the operations of the councils of oblast and rayon APO's to a certain extent. Revision work was almost completely controlled by this ministry. It deals with the distribution of concentrated feeds although it is clear that this is a matter for the oblast and rayon APO council. Passing these councils by, the republic's ministry also decided questions of capital building in the village. The APO and RAPO also did not receive copies of documents in which the ministry informed its oblast administration about financing and the distribution of feed and other resources.

The republic's ministry of water management occupied a similar position. All resources earmarked for reclamation and for the assimilation of new lands are in the hands of the ministry and its oblast administration. In essence, the RAPO and APO find themselves in the role of solicitors.

As we know, the improvement of planning of interbranch ties within the system of the agroindustrial complex is of great significance in the implementation of the Food Program. At the present time, theoretical bases have been worked out for agroindustrial integration, organizational forms have been developed for cooperating enterprises and administrations and an economic mechanism of interrelations between agriculture and other related branches of the economy has been created.

In the process of producing the end product it is essential to have close interrelations between kolkhozes and sovkhoses and their partners--enterprises which supply them with production resources, which implement equipment repair, which supply mineral fertilizers and which organize the reception, transport, storage and processing of products. In practice things are still not organized in this way by far. The working apparatus of the oblast APO includes a department of interenterprise communication and independent planning, one of the tasks of which is to coordinate the operations of all partners within the agroindustrial association located on the oblast's territory. However, these departments are not involved in their direct obligations. As before, kolkhozes and sovkhoses come across the "barriers" of procurement organizations. This involves a lack of supplies of packaging material, the untimely reception of products locally, the absence of the needed means of transportation, the lack of preparation for the "peak" periods by processing enterprises and so forth. It is important to improve interrelations with trade organizations--often fruit and vegetables which become part of the trade network after passing through several storage terminals lose their consumer properties.

The links which service agriculture--Selkhoztekhnika [Agricultural Equipment Association] and Selkhozkhimiya [Agricultural Chemical Association] are still functioning apart from general production and are responsible only for their own work sector. Equipment repair is of poor quality; supply with spare parts and fuel and lubricating materials has not been organized to the necessary degree. All of this as a rule comes to light at the very peak of agricultural work. To this we should add the constant shortage of mineral fertilizers and

resources to combat plant pests in enterprises, poor organization for storing these materials and consequently, their deterioration and loss.

It is essential that the RAPO take into its own hands the basic instrument for managing the APK economy--the plan. The service enterprise must receive a plan not from above but from the agroindustrial association. Then it will not be forced to "chase after" volumes, to impose services, or to expend resources in vain for premature repairs. All restructuring within this area must be based on cost accounting and on the economic independence of the enterprise. Kolkhozes and sovkhoses must decide for themselves whether they want to utilize the services of partners or carry out the work through their own efforts.

Among the important shortcomings that still remain are the division, without foundation, of the process of agricultural production output and the processing of agricultural products as well as the organizational-economic separateness of these processes. Due to this, losses in farming and in livestock raising are great. For example, the processing of milk and meat is often carried out far away from the farm--as a consequence not only is a significant portion of production lost but its quality suffers as well. Thus, during the 10th Five-Year Plan due to the sale of unconditioned milk the livestock farmers of Uzbekistan underproduced by over 37 million rubles.

The separateness of production and processing of agricultural products is becoming an extremely serious hindrance in the development and increased effectiveness of the agroindustrial complex. For this reason it is completely natural that a reverse tendency is being observed--toward integration and toward the merging of the agricultural branch with the processing branch. In some rayons interenterprise associations are being created that include all of the most important links for the production of the end product. We must also eliminate separateness within the framework of the RAPO.

Great importance in this area is acquired by the development of the corresponding economic mechanism. I feel that restructuring in this direction should begin with the integration of management. There is no doubt that to improve management of the agroindustrial association at any level (rayon, oblast, republic), the broadening of independence is of great importance. Any APO, free of departmentalization, can determine much better where and what to create, build or supply in the interest of the end result.

Special attention is required by questions related to the procurement of agricultural products. For example, in those republics where livestock procurement was implemented by the Ministry of the Meat and Dairy Industry (Ukraine, Estonia, Latvia, Lithuania and others), the delivery of livestock products from livestock-raising complexes directly to enterprises of the meat industry reached 80 percent and more. In Samarkand Meat Combine this indicator equals only 42.5 percent.

The establishment of direct ties between agriculture and enterprises of the meat industry will enable us to economize significantly on live and reified labor. At present the livestock-raising complexes of Uzbekistan still continue to pay procurement organizations large sums due to significant

organizational-overhead and transportation expenditures. In 1983 within the system of the Uzbek SSR Ministry of the Meat and Dairy Industry in Samarkand Oblast there were 16 rayon procurement buros, feeding sovkhozes and points which were paid 520,000 rubles for reimbursing organizational-overhead and transportation expenditures.

To strengthen and develop direct ties between agriculture and the processing industry, the transition to livestock procurement directly in enterprises (kolkhozes and sovkhozes) and the transport of these products by means of the specialized means of transportation belonging to the procurer (in this case, the meat combine, is important.

It is expedient to significantly decrease the number of assignments and indicators developed by higher planning organs, as foreseen by the decisions of the 26th CPSU Congress, while orienting the operations of all APK links to the end results with a consideration of existing production-economic potential and its real growth. Thus, only the following should be assigned down to the rayon agroindustrial association--the volume of deliveries of the basic types of agricultural products for the state fund in the course of 5 years (with a breakdown by year) with a consideration of an efficient scheme for distributing production within the republic and of the agroeconomic potential of rayons; the volume of state capital investments and limits of building-installation work; the degree of material-technical supply related to plans for product sales.

The return on investments into the intensification of food branches and the entire cotton sector can be increased to a considerable degree by means of the systematic implementation of CPSU directives regarding the introduction of genuine, not formal, cost accounting, of the expansion of economic independence and responsibility of enterprises, the strengthening of ties between incentives and the end results of the development of agroindustrial production and its effectiveness. All of this presupposes the continued systematization of prices and other economic factors, an improvement in the economic mechanism, beginning with methods of planned management and ending with the use of effective forms of interrelations between partners in agroindustrial production and above all of contractual agreements.

On the basis of systematic cost-accounting relations of enterprises with plan-procurement and other service organizations alone, rapid and radical changes are possible in the structure of agricultural production. Now, when single organizations have been created on the rayon level, plan tasks regarding the sale of specific types of products should be assigned only to these associations. The established tasks can be implemented on a cost accounting and contractual basis, with equality among parties and strict mutual responsibilities. This is the essence of the path for reorienting the work of service organizations toward the end results of agricultural and agroindustrial production foreseen in the resolution of the CPSU Central Committee and USSR Council of Ministers of 23 November 1985, "On Further Improving the Management of the Agroindustrial Complex."

Within the mechanism of economic regulation an important role is played by the stimulation of management activity and the evaluation of its results. Until

recently the system of evaluations and incentives was oriented above all toward the fulfillment and overfulfillment of plans dealing with the production and sale of products. There is no need to prove the extreme importance of the strict fulfillment of the state plan by all management links. But the system of evaluations and incentives should not be tied to plan fulfillment alone. In some managers this gives rise to enterprise directed at receiving fewer state plan assignments, and more resources, as noted at the 26th CPSU Congress. The fulfillment of contractual agreements could become the basis for evaluating the results of labor and for providing incentives to workers under conditions of genuine cost accounting.

This refers in full measure to the evaluation and stimulation of operations in spheres that service agricultural production. The economic contract is called upon to achieve the coordination of the implementation of the functions of service organizations with the end results of the management operations of enterprises and rayon and republic agroindustrial complexes in an economical manner via the use of stimuli and sanctions. With the use of a centralized fund of material incentives, the councils of rayon and oblast APO's must have the opportunity to additionally provide incentives for those service links and specific participants in production which have made a contribution, in accordance with a contractual agreement, toward achieving the greatest effect--toward achieving high-quality end food products with the smallest standard expenditure of resources.

The aforementioned changes do not diminish the principles of centralized planning. Of course, a firm plan must be realistic and at the same time intensive, taking into account all objective conditions of management operations. Otherwise it loses all of its mobilization force, hinders further intensification of production and the efficient utilization of existing resources and possibilities. Meanwhile in many enterprises there is still a considerable gap between plans and realistic production possibilities. Objective planning on the basis of a system of equitable economic contracts between enterprises and procurement organizations enable us to eliminate these discrepancies and errors in planning.

We feel that on the whole a firm plan for the sale to the state (into the union fund) of food products, sent to republics, must be fixed in a special contract which will foresee counter-deliveries of resources to agricultural enterprises, their volume, nomenclature, delivery schedules, prices and so forth. For this purpose a resolution was passed in April 1983 by the CPSU Central Committee and USSR Council of Ministers concerning strengthening contractual discipline in relations between partners of various branches and spheres of the national economy. Agricultural products produced above plan-contractual obligations can become the subject of interregional exchange on the basis of contractual agreements. In this way not only stability and flexibility of economic relations (naturally, with a consideration of the specific characteristics of agriculture) but also more effective stimulation of growth in production output, greater responsibility of republic and oblast centers for supplying the population in the region under its jurisdiction with products can be achieved. The development of interregional contractual relations will also contribute to the formation of a regional system for the

distribution and specialization of agricultural products according to natural-economic zones in the country.

The general economic condition for the active influence of the management mechanism on the effectiveness of intensifying food branches and the entire cotton sector is scientifically-based price formation. The change in price ratios for APK products still does not achieve an equivalent exchange between agriculture and other branches. In a number of cases an increase in prices for production resources outstrips the increase in procurement prices, resulting in a decrease in profitability and sovkhos production, and making the practical utilization of an effective system of contractual agreements more difficult. Moreover, in agriculture a multi-level price system for the same products has developed--retail prices for livestock products, vegetables and fruits; commission; and procurement prices and prices on the kolkhoz market. The gap in prices for several types of products is fairly significant, which naturally impedes production stimulation and the implementation of cost accounting work principles.

The population that produces agricultural products tries to utilize fewer of its own livestock products, preferring to sell them according to market, commission and even procurement prices and to purchase meat and dairy products in the city according to lower retail prices. Thus, a portion of agricultural products completes a double path--from the village to the city and back. The government bears considerable additional expenses for this.

The existence of a multi-level price systems weakens the effectiveness of incentives in the sphere of public production because this gives rise to additional sources of income for certain categories of producers with the same production volume by means of the use of more advantageous prices for the sale of products. In public production interest develops in having non-plan surplus products not only for the purpose of paying for the labor of kolkhoz farmers and agricultural workers with produce but also for that of selling through the network of commission trade. At the same time, in a number of cases income from the private plot is considerably higher than from work in the public sector of agricultural production, especially in the southern parts of the country, where the population raises fruits and vegetables which are in short supply. All of this partially diverts labor and material resources from use in the public sector and provides the opportunity to obtain an unjustifiably large income, including by means of the appropriation of differential rent I.

This is why the proposal by a number of economists concerning the transition to a single level of prices, which takes into account the worst but objectively-existing production conditions in agriculture, the economic evaluation of the soil and the introduction of rent payments as well as the reorganization of relations between procurement and retail prices, which should contribute to curtailing non-cost accounting subsidies to branches of sphere III of the APK, deserves special attention. This would become an important incentive for balance within the APK system, for the acceleration and increased economic effectiveness of production intensification, for improvements in the relationship between demand and the supply of food products in both the system of state and cooperative trade as well as the

kolkhoz market. Among the conditions for solving this problem are the development of equal economic conditions for production on the private plot and the systematic integration of the private plot with the public sector by means of that same effective system of economic contractual relations.

Price formation must also more effectively stimulate production quality, first and foremost by means of more perfected price differentiation, especially for meat products depending on their quality. We have only three price levels for meat for each of these categories (for beef, lamb, pork and others), regardless of what type of meat this is--steamed, cooled, or frozen--which contradicts elementary management principles and market laws. In most countries, including socialist, prices for meat depending on quality are clearly differentiated. In Hungary, for example, there are 12 price levels in effect for meat from one type of animal, which corresponds more fully to the interests of the consumer and of the national economy as a whole. At the same time, price differentiation increases the responsibility and interest of the meat industry and trade network in preserving the quality of meat products and in their most rapid delivery to the consumer.

The aforementioned proposals naturally need to be worked out in greater detail. Here only experience will enable us to determine the best organizational forms and main directions for improving the economic mechanism for intensifying agriculture and all of agroindustrial production as well as the effective functioning of territorial complexes with a certain specialization and the corresponding branch structure. This kind of experience can be acquired while moving steadfastly forward on the path of restructuring, modernizing and researching new forms and organizational-economic principles and non-traditional management decisions for the large-scale tasks established by the party as regards the implementation of the Food Program.

FOOTNOTES

1. In 1990 it is planned to produce 20-22 million tons of grain alone on irrigated lands (2).

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REGIONAL DEVELOPMENT

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COMBATING WATER EROSION IN THE NORTHERN CAUCASUS

Krasnodar SELSKIYE ZORI in Russian No 7, July 85 pp 41-42

[Article by Ye. Rubtsov, candidate of geographic science, chief engineer of the institute Sevkavgiprozem; A. Pashinskiy, group leader of the institute Sevkavgiprovodkhoz; and I. Seynova, candidate of geographic science, scientific associate of the laboratory for avalanches of snow and mud of Moscow State University imeni M.V. Lomonosov: "A Reliable Barrier Against Water Erosion"]

[Text] The measures being taken to control erosion in the Northern Caucasus have a particular topicality, especially those in its four autonomous republics, because the foothills portion of this region falls in a zone of sufficient precipitation, but the mountain part in a zone of excessive precipitation. The amount of rainfall increases there from 500 millimeters in the plains to 1200 in the mountains. The most dangerous erosion phenomena involved are caused by rainstorms, which occur rather frequently in the region and tend to be very heavy. For instance, on 15 July 1982 60 millimeters (approximately the monthly average) fell in two hours at the settlement Verkhniy Kurkuzhin in Kabardino-Balkar ASSR, causing a destructive flood on the Kurkuzhin River. In July-August 1983 heaving flooding and mud flows were observed on the Chegem and Baksan rivers.

Water erosion is most highly developed on plowland. If we take into account that plowland occupies more than 30 percent of the land area on the slopes of the Northern Caucasus region, one can easily imagine the amount of fertile soil that is washed away in heavy rains. According to the data of Professor P.G. Luchkov, in the Nalchik area between 100 and 300 tons of soil have been washed off per hectare in a rainstorm even on a slope with perennial plantations. Research has shown that on plowland this figure goes as high as 500 tons.

When we take into account that in the autonomous republics of the Northern Caucasus taken as a whole soil subject to erosion occupies about 1,900,000 hectares, it is obvious how important erosion control is here. After all, the shortfall of the yield on slightly eroded soils averages 15 percent, on moderately eroded soils 40 percent, and on highly eroded soils 60 percent compared to soils which have not been eroded.

The flood loss on the rivers of the Terek basin, for example, runs some years to 2-3 million rubles. Mudflows, sudden flows of mud and stone, which are

common mostly in the high mountain areas, are still inflicting large losses on the economy. The statistical data show that heavy mudflows recur in the Northern Caucasus every 5-10 years in virtually a majority of the 465 mud basins.

Soviet and foreign science and practice have worked out quite a few methods of combating soil erosion and mudflows. Most of them are being used effectively in the Northern Caucasus. The preventive measures being taken in the region include the organization of erosion-control districts, which makes provision for optimum location of farmland and selection of the appropriate farm crops. Roads are planned and construction projects are located on a particular farm so that the existence of these structures does not tend to form man-made foci of erosion. When construction projects are planned and when new land is developed in the mountains, the degree of danger of mudflow is now more strictly taken into account.

But unwise economic activity, which has been occurring even now, results in the formation of manmade centers of erosion and mudflows. In just the Baksan Canyon in Kabardino-Balkar ASSR and Ardon Canyon in Northern Ossetia some ten mudflow centers have formed, created by the hands of man. Unwise economic activity has been manifested with particular vividness in the basin of the Lamposhoko River (KBASSR), where an active center of mud flow erosion has been created.

There have been four simultaneous anthropogenic factors that served as the cause of creation of mudflows that have been causing damage to the village of Zayukovo. The erosion scouring of the tailings piles of a tufa quarry at the head of the river provided the initial impulse toward the occurrence of mudflows. The mudflow received another boost from the landslides that occurred on the left bank of the valley, where the stability of the slope was destroyed because of the numerous paths used for driving cattle. The zone where landslides occurred on the right side of the valley traveled along the roadway of a dirt road that was thoughtlessly located. Mudflow received an additional thrust when an earth dam left by geologists at a drilling site ruptured.

Cases like this are unfortunately not isolated. Quite a bit of work was involved in repairing the damage. For instance, eliminating the mudflow hazard in the region of the village Zayukovo meant not only building check dams, but also organizing proper storage of the gangue produced in the tufa quarry, moving the route of the dirt road, and restricting the pasturage of livestock in the watershed of the river carrying the mudflow.

The soil and crop practices used in the foothills of the Northern Caucasus include a system for tilling the soil to prevent erosion (contour plowing), which helps to slow down the speed of the surface runoff and to improve the filtering characteristics of soils.

Measures to improve plant life are one of the effective and economical ways of combating water erosion. Plantings of bushes and trees are very effective against the bed erosion of gullies, ravines and intermittent streams. Thanks to their root system the plantations not only consolidate the soil of the bottoms of gullies and ravines, but they also filter the flow of water, which

is saturated with sediments, and this helps to reduce the silting of the small rivers and bodies of water. Trees in watersheds and on the banks of rivers and ditches prevent the washing away of river banks and the slopes or valleys. In a number of cases farms are carrying out dense afforestation of ravines and gullies and eroded declivities. Experience has shown that forest improvement over large areas is especially justified when combined with the planting of grass.

Hydraulic engineering measures are the most expensive of the measures to combat erosion. Yet using them to control runoff makes it possible to eliminate erosion even in a short period of time. In planning economic development of certain areas susceptible to erosion, then, money should be set aside to build hydraulic engineering structures, which pay off quickly through the increased output of farm products and elimination of the loss caused by rainstorms and mudflows.

Terracing is a common method of combating the scouring of slopes. In all areas of the Northern Caucasus they have had experience in building stepped terraces on slopes, it has been described in the literature, and there is no need to deal with this question in the present article.

Banks built to check water at the head of gullies and ravines to intercept the runoff have become widespread recently on the farms of the autonomous republics. Depending on the size and steepness of the gully's catchment area the banks to combat erosion have to be built in two or more rows.

In localities with a sizable amplitude of the relief and a comparatively high number of gullies in the catchment, systems of ponds are often built to regulate the runoff, and at the same time they are used for irrigation, water supply and raising fish. Measures like this to combat erosion pay off quickly.

The bed erosion of gullies and ravines is stopped by building check dams, water retention structures, and sluices.

In the autonomous republics, krais and oblasts of Northern Caucasus quite a few large structures have been built to combat mudflows. They have been built in the areas of Novorossiysk and Tyrnyauz, at an ore mine in Northern Ossetia, and at mountaineering facilities in Karachayevo-Cherkess Autonomous Oblast, Kabardino-Balkar ASSR, and Northern Ossetia, and on roads in Daghestan and Chechen-Ingush ASSR. Everywhere in the region structures are being built to reinforce banks and to regulate the flow of water. Since they serve not only agriculture, but also industry, construction, and housing and utilities, the total benefit they afford on the basis of weighted indicators should be taken into account in determining their payoff period.

It is an extremely urgent problem in the Northern Caucasus region to increase further the effectiveness of erosion-control measures, which promote an increase in the production of farm products and conservation of natural resources. Solving this problem will contribute to speediest fulfillment of the Food Program outlined by the party and to raising the standard of living of the Soviet people.

The need to expand hydraulic engineering construction in the Northern Caucasus is beyond doubt, since its area, as already noted, is a scene of severe mudflow phenomena, intensive slope and bed runoff, landslides, caving, subsiding and other processes and phenomena which destroy the soil. There needs to be substantial improvement in the practice of designing and building hydraulic engineering structures, and the level of all erosion control work needs to be raised, and in particular the master charts of erosion-control measures for the autonomous republics of the Northern Caucasus need to be corrected at a high level of competence, which is being done by the institute Sevkavgiprozem.

As in any other effort, experienced and well-trained personnel decide the success or failure of economic measures. However, in a majority of the region's republics, krais and oblasts they are experiencing a shortage of specialists in the problems of erosion and mudflow, and this is related to a definite problem in the orientation of VUZs for agriculture and the engineering disciplines related to water management and land-resource improvement. Accordingly, in our view it would be advisable to introduce a specialization in the design, construction and operation of structures to combat erosion and mudflows for students studying hydraulic engineering in the Northern Caucasus and also to broaden the course entitled "Farm and Forestry Practices to Combat Erosion" for students studying to be agronomists and specialists in forest improvement. The training of specialists with a broad education will go a long way towards guaranteeing successful performance of the important tasks involved in eliminating dangerous erosion processes, reestablishing soil fertility, and conserving the extremely rich natural resources of the Northern Caucasus.

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REGIONAL DEVELOPMENT

FOREST SOIL IMPROVEMENT TO PROTECT BODIES OF WATER

Saratov STEPNYYE PROSTORY in Russian No 10, Oct 85 pp 35-36

[Article by Yu V. Smirnov, forest reclamation engineer of the Saratov branch of Yuzhgiprozem: "Forest Amelioration for Water Conservation"]

[Text] It has been established by surveying work done by the Saratov branch of the institute Yuzhgiprozem that by no means all of the ponds and bodies of water in the oblast have forest protection against the impact of erosion processes. Forest belts have not been planted along the shores for water conservation. Species of brush that have a colmatage effect are lacking in gullies and ravines. Accordingly, a number of practical suggestions are made to build an interrelated set of forest reclamation plantations for water conservation.

If the conditions allow, then a forest belt for the purpose of water conservation should be planted near the edge of the pond around its perimeter along the NPU line (the water level normally maintained). From the NPU line to the forest zone an improved meadow belt 10-15 meters wide should be left. For ponds up to 10-15 hectares in area we recommend encirclement by 18-meter-wide thickly planted forest strips with the placement of young trees (2-year

seedlings, transplants and rooted stocks) every 1.5 meters in rows in a K-S-G-G-S-K or K-S-S-G-G-K pattern, where K stands for a shrub, S for an accompanying species, and G the principal species. The selection of species and also the system for preparing the soil depend on the conditions of the locality, the angle of slope of the sides of the ravines and gullies. For slopes less than 5 degrees a system of soil preparation of early or black fallow is recommended. Black fallow is recommended on slopes greater than 5 degrees.

The composition of tree-shrub species is chosen as a function of the area where the body of water is located, with the following assortment: G - white willow (planted as transplants or large saplings), warty birch, Siberian larch, common pine; S - Canadian and Berlin and black poplar, green and common ash, pear and apple; K - shrub willows (*S. pentandra*, *S. acutifolia*, the Russian willow, the Caspian willow, etc.), hawthorn, junberry, dogwood, golden currant, the Russian olive, and the wild rose.

The wet bank of a dam must also be protected against wave action, and for that purpose a strip of vegetation in one or two rows consisting of willows in

shrub form needs to be created between the high water line (MPG) and normal water line (NPG (u)). Above the normal water level a strip is located in one or two rows of the species more resistant to drought and needing less water: hawthorn, junberry, Hungarian lilac (*Syringa Josikaea*) and the Russian olive.

The placement of the plants for the lower strip are one meter in the row and one meter between rows, for the upper strip it is one meter in the row with 2-3 meters between the rows. The dry bank must be planted in grass.

Whatever the soil and earth conditions might be on the site where hydraulic engineering structures are built, below the section line of the dam percolation of the water is possible, and this frequently causes the area to become boggy. Plantings to improve the drainage need to be made to prevent this. This is usually done by planting white willow saplings two meters apart in rows 3-4 meters apart following the contours of the possible boggy area.

Plantings for the purpose of filtering silt on the bottom of gulches and ravines above a pond or other body of water are a very important way of protecting the body of water from sediment carried by erosion. Plantings for the purpose of filtering silt are made without prior preparation of the soil in those areas which have been most eroded by planting shrub willow stocks transverse to the flow of water.

Instead of shrub willow, the planting of the Russian olive (*Elaeagnus angustifolia*) can be recommended in ravines and dry gullies. Under ordinary conditions for every kilometer of the hydrographic grid between 1 and 3 sections of silt-filtering plantations 20-50 meters wide are created transverse to the section of the gully or ravine.

An interrelated system of erosion-control and water-conservation plantations greatly lengthens the life of the body of water, reduces the salinity of the water, prevents excessive evaporation and drying up of the body of water, and thereby serves a most useful purpose of irrigating farmland.

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AGRO-ECONOMICS AND ORGANIZATION

PARTY LEADERS ATTEND UKRAINIAN AGROPROM CONFERENCE

Republic Officials on Tasks

Kiev SILSKI VISTI in Ukrainian 26 Jan 86 p 3

[Article by B. Polishchuk: "Confirm an Innovative, Businesslike Style: From the Constituent Assembly of the Republic Gosagroprom"]

[Text] Many of these Communists until quite recently could be seen at desks in the republic ministries of agriculture, meat and dairy industry, food industry, State Committee for the Supply of Production Equipment for Agriculture, as well as a number of other ministries and agencies. Yesterday they all gathered at a constituent assembly to unite in a single UkrSSR Gosagroprom party organization and to specify their tasks in the new working conditions.

And these tasks are critically important. Gosagroprom was just recently established, and has no counterpart. The republic Gosagroprom system includes almost 10,000 kolkhozes and sovkhoses, more than 1,700 meat packing, dairy and food processing industry enterprises, 1,800 construction organizations, more than 4,000 enterprises and organizations serving agriculture, and more than 150 scientific establishments. This entire mechanism must work with precision, reliability, and a high degree of efficiency, because in the current 5-year plan Agroprom is tasked with increasing average annual gross production by 13-15 percent. This republic has never before experienced such a rate of growth.

Success will depend in large measure on the activities of the principal headquarters staff -- the administrative staff of UkrSSR Gosagroprom, its party committee, and the entire party organization.

It is essential to do things in such a manner that Agroprom produces tangible results from the very outset, from its very first steps of consolidation. And there is considerable potential to do so. This is attested by the first practical activities in the new conditions. At the beginning of January of this year a group of specialists from the Livestock Production Scientific Systems Administration, headed by administration chief V. M. Lukiyanchuk, visited Novgorodkovskiy, Novoukrainskiy, and Dobrovelichkovskiy rayons in Kirovograd Oblast. On the day before the constituent assembly we spoke with

the chairman of the Kirovograd Oblast Executive Committee, V. I. Zheliba. He told us: "We could sense a totally new style, a new approach to things in the way this group worked. We were visited not by inspectors who were seeking to find as many deficiencies as possible and to write a voluminous report, as is sometimes the case, but rather highly skilled, competent production organizers. Each of them visited a most backward livestock unit. In order to get a fuller look at 'bottlenecks,' these comrades were the first to arrive at a livestock unit and the last to leave. They did not ask anybody for any summary performance reports nor did they take people away from their work to make calculations. They came with their own calculations, made on the basis of state accounting records. If it was necessary to make any calculations as they went, they would do it themselves. Shortcomings, and quite a few were discovered, for these rayons have declined in milk yields, would immediately be corrected with the aid of the experts from Gosagroprom. We could cite many examples, particularly the following. A feed preparation shop had not been in operation for quite some time on the Kolkhoz imeni Ordzhonikidze -- the feed mixer had broken down. Farm personnel were unable to repair the mixer, and they were unable to find the required replacement part. An engineer from the republic Gosagroprom examined the equipment, told the kolkhoz machinery operators how to get the feed mixer into working order, organized repairs, and the feed preparation shop came back into operation. After 10 days of practical assistance, the daily milk yield per cow in the above-listed rayons was increased by 0.1-0.2 kg. This was an instructive lesson for all of us. We use this example to teach oblast Agroprom administrators and specialist personnel...."

At the Livestock Production Scientific Systems Administration, we asked about the report submitted following the tour of inspection. It totaled only a few pages. It was businesslike and brief. It stated what had been done on the spot and what still remained to be done in a common effort.

The constituent assembly of party members was permeated precisely with concern about such businesslike, precise work by the republic Gosagroprom.

Yu. P. Kolomiyets, candidate member of the Ukrainian Communist Party Central Committee Politburo and first deputy chairman of the UkSSR Council of Ministers and chairman of the republic Gosagroprom, stated in his report: "Each individual should be clearly aware that oblast and rayon Agroprom agencies compare their own work style against the work style and methods of the administrative mechanism of Agroprom and its subordinate organizations. We must display an example of excellent organization, efficiency, unity of word and deed, and skill, and if necessary assume responsibility for resolving a given matter, and finish a job once begun. We must resolutely address even the slightest manifestations of an excessively formalistic and bureaucratic attitude in one's work. Agroprom specialists should use every means possible to correct deficiencies and should feel just as responsible for the state of affairs as the executive officers of the farms and enterprises. We should not tolerate excessively close supervision and bureaucratic rule, or acting in place of officials of oblast agroindustrial complexes and rayon agroindustrial associations." Yu. P. Kolomiyets stressed that the requirement is unequivocal -- kolkhozes and sovkhoses should not be "governed," as has frequently

occurred in the past, but all conditions should be created for them to accomplish their assigned tasks.

The first serious test of the new agencies will be the organized conduct of livestock wintering, spring sowing, care of crops, and harvesting. The effectiveness of Agroprom will be judged by how it completes the economic year. And it should pass this test with flying colors.

Yu. P. Kolomiyets discussed matters pertaining to further increasing the gross grain harvest, procurements, and improving the quality of feeds, livestock products, implementation of a regimen of economy and thrift, broader incorporation of economic accountability and the collective contract, scientific and technological advances and advanced know-how into production, improvement of the state of affairs in capital construction, etc. He as well as other speakers devoted considerable attention to care for and economical utilization of finished product. The following example was cited: losses of cabbage and carrots comprise almost 40 percent in certain storage facilities and vegetable storage pits operated by the October and Leningrad wholesale-retail combines in Kiev. Large quantities of onions, apples and other produce are unfit for sale. It was stated that those Communists in charge of processing branches should take immediate measures to reduce produce losses at all stages of production and procurement and should more aggressively adopt low-waste and no-waste technologies.

Stress was placed on the need to improve the efficiency and practical results of agricultural science, especially in the area of plant selection and selective breeding. Specific Ukrainian-selection potatoes, for example, represent only 10 percent of planted acreage in potatoes in this republic. A potato growing technology has not been developed. There are also a number of serious deficiencies in the conduct of elite-stock seed production. Corn and perennial grass seed production remains a weak area. In animal husbandry scientists have virtually lost contact with purebred breeding farms and purebred breeding sovkhozes, which should become the centers of selective breeding activities.

Considerable attention was devoted to important matters pertaining to further intensification of production, improving economic factors in boosting production efficiency, strengthening state procurement discipline, increasing the responsibility of cadres for the assigned task, and sociocultural construction in the village in an address at the constituent assembly by Politburo member and Ukrainian Communist Party Central Committee Secretary I. O. Mozhovyy. The present stage, he stated, demands more than ever before a high level of discipline and precise order. The situation is such that everybody should engage in reorganizing his way of doing things, in many respects strengthening one's work style and methods, reevaluating one's actions, eliminating bragging and boasting, and assessing on the basis of end results.

A new work style should also become established in the new agencies. Paper shuffling should be done away with, and each individual should bear greater responsibility for flawless performance of one's duties. I. O. Mozhovyy stressed the importance of specific assistance on the spot and strong results

from trips to kolkhozes and sovkhozes by Agroprom specialists. He stated that it is essential that it be felt both on farms and at the rayon and oblast level that a new, solid, efficient management agency has been created.

The Ukrainian party Central Committee secretary discussed tasks facing the newly-elected party committee and the entire party organization of the republic Gosagroprom. They must keep an eye on each and every official, their attitude toward things, and speak out firmly on manifestations of bureaucracy and excessive attention to form with detriment to content.

On the whole, in characterizing Gosagroprom cadres, I. O. Mozhovyy stated that they are highly-skilled individuals who know their job. But today that is not enough -- one must also have the ability to work, which unfortunately is lacking in some individuals. There has been lacking pertinacity and firmness first and foremost in incorporating scientific and technological advances. As a result on many farms and at many enterprises that which has proven quite effective, such as the brigade contract, the continuous-flow shop system, and industrial, no-waste technology have not gone beyond the point of wishful thinking..

We cannot accept this. Every Agroprom official and specialist must realistically assess what has been accomplished and understand that success cannot be achieved if one is passive and lacks initiative.

Thus the emphasis is on efficiency -- the most important component part of party economic strategy, I. O. Mozhovyy stated in conclusion. The Central Committee of the Communist Party of the Ukraine expects the newly-elected party committee and party members of the republic Gosagroprom to do everything in order to greet in a worthy manner the 27th CPSU Congress and the 27th Congress of the Ukrainian Communist Party, and successfully to implement their decisions.

V. P. Zernytskyy was elected UkSSR Gosagroprom party committee secretary.

CPSU Secretary at Lvov

Kiev SILSKI VISTI in Ukrainian 18 Feb 86 p 3

[Article, published under the rubric "Agroprom: Following a Policy of Acceleration," by V. Karpiy and O. Horobets: "Decisive Factors of Growth"]

[Text] As has already been reported, a zonal conference on matters pertaining to strengthening organizational work connected with the adoption of economic accountability, collective contract, and intensive technologies in crop farming and animal husbandry was held these last few days in Lvov. It was attended by party, soviet, trade union and Komsomol officials, Agroprom officials and specialists, scientists, and vanguard production workers from the Ukraine, Belorussia, Georgia, Azerbaijan, Lithuania, Moldavia, Latvia, Armenia, and Estonia.

CPSU Central Committee Secretary V. P. Nikonov addressed the conference.

The following took part in the conference proceedings: I. O. Mozhovyy, Ukrainian Communist Party Central Committee secretary and Politburo member; Ukrainian Communist Party Central Committee Politburo candidate members First Secretary of the Lvov Oblast Party Committee V. F. Dobryk and First Deputy Chairman of the UkSSR Council of Ministers and Chairman of the Republic Gosagroprom Yu. P. Kolomiyets; deputy chief of the Agriculture and Food Industry Department of the CPSU Central Committee V. K. Onysovets; deputy chairman of the USSR Gosagroprom L. M. Kuznetsov.

We publish below a brief article on the conference.

Intensive Methods

It was stated at the conference that management of the agroindustrial complex is improving as a result of implementation of measures designated by party and government. There has taken place not merely a coalescing of ministries and agencies: the point lies not only in altering the very structure of management. Agroprom is called upon to work as a unified whole at all levels. Herein lies the essence of work under the new conditions. Precisely for this reason the center of all organizational work is shifting toward improving the economic instruments of management, broadening the independence of the farms, and increasing their responsibility for utilizing production potential, allocated resources, and meeting state plan targets. Strengthening the principles of economic accountability, economical methods of production management, and boosting the effectiveness of cost accountability and the collective contract are assuming great importance in accomplishing these tasks.

"A big job is being carried out in this republic pertaining to adopting intensive methods of economic management," Ukrainian Communist Party Central Committee secretary and Politburo member I. O. Mozhovyy emphasized in his address at the conference. "Economic accountability and the collective contract are being incorporated everywhere. Recently the number of brigades, livestock units, and production teams working in the new manner has increased in this republic from 3,000 to more than 50,000. Last year they produced more than half of total gross agricultural output. Presently almost 72 percent of crop acreage has been assigned to contract collectives, and they are caring for large numbers of cattle, swine, and poultry."

An example was cited from Lvov Oblast. Last year units operating not on the basis of a work order produced grain yields 5 quintals higher than primary production teams, brigades, and detachments paid on the basis of a work order. The former produced sugar beet yields 39 quintals higher, 23 quintals higher in vegetables and potatoes, and 60 quintals higher in feed beets. In animal husbandry those units working on the basis of a progressive form of organization and labor incentive produced an average annual per-cow milk yield of 3,174 kg. Those who worked in the old way produced 271 kilograms less.

As an analysis indicates, the greatest effect in changing over to a contract is achieved where it is incorporated on the basis of economic accountability. At the same time the experience of many agricultural enterprises persuasively confirms that the most effective form of verification of cost accountability is a check system of mutual accounting calculations. As was noted at the conference, those farms in Lvov Oblast which have adopted economic accountability have almost tripled their net income, and their production profitability has increased considerably.

The farms of Volnovakhskiy Rayon in Donetsk Oblast have amassed considerable experience in highly-efficient operation of cost-accountable subdivisions working on the basis of a contract. All kolkhozes and sovkhoses in this rayon have adopted intrafarm economic accountability, including 26 farms with the check form of monitoring expenditures and mutual accounting. Sixty-three percent of workers are covered by a collective contract. Last year gross output per worker rose by 20 percent in comparison with the 1981 figure, while wages increased 10 percent.

Complete intrafarm economic accountability with a check system of mutual verification and mutual account calculations between subdivisions and a shop structure of management has been in operation for many years now at the Kolkhoz imeni Kalinin in Berdyanskiy Rayon, Zaporozhye Oblast. And this is producing good results every year. Collective management of production as well as collective sharing in earnings have taught workers thrift and economy. They continuously have one of the oblast's lowest production costs.

It was stressed at the conference that economic accountability and its highest form -- the collective contract -- are not an end in themselves but rather an effective means of expanding the scale of production and improving production efficiency.

Typical statements at the conference in this regard were made by V. L. Solodovskyy, head of a mechanized detachment on the Svitanok Kolkhoz in Kiliyskiy Rayon, Odessa Oblast.

"Prior to adopting the collective contract," stated Viktor Leonidovich, "corn yields on our farm did not exceed 30 quintals. But then five of us farm machinery operators entered into a contract team: we decided to see what we could accomplish. They assigned us 100 hectares of irrigated land and the necessary equipment. The contract called for producing 65 quintals of grain corn per hectare.

"In the very first year of operation in the new way," V. L. Solodovskyy continued, "we produced a yield of roughly 111 quintals. Analyzing what we had achieved, we became convinced that growing a single crop could not ensure uniform work-loading of the team members. Therefore at the beginning of last year our enlarged mechanized team, which now contained 14 farm machinery operators, proceeded to crop-rotation farm 770 hectares."

They prepared flowcharts with the assistance of specialists. They did a fine job of readying their equipment and thoroughly mastered advanced know-how.

Last year they produced 75 quintals of corn from each of 286 hectares. Of this acreage, they produced a yield of 115 quintals on 100 irrigated hectares. They produced a yield of 59 quintals of winter wheat after threshing. They produced 64 quintals of grain from each of 650 hectares.

The collective contract is becoming increasingly more widespread, embracing various areas of production. The farm machinery operators and irrigation equipment operators on the Stepovyy Kolkhoz in Novotroitskiy Rayon, Kherson Oblast, joined efforts with the operating electricians at the pumping station of the local irrigation systems administration. A fundamentally new economic-accountability team was formed, which proceeded to work on the basis of an integral-process contract.

For 3 years now an integral-process collective contract has been in effect in the livestock-raising operation at the Kolkhoz imeni 17 September in Stryyskiy Rayon, Lvov Oblast. The conferees were briefed on organization of this collective's work operations. Wages not only of stockmen but also of specialists and administrative personnel depend on end results. Now everybody shows equal concern to achieve economy and thrift. As a result, last year profitability of production exceeded 25 percent, and more than 870,000 rubles net income were added to the state's coffers.

The contract form of organization of labor and labor incentive has been widely adopted on the farms of Voroshilovgrad, Donetsk, Ivano-Frankovsk, Odessa, and Chernovtsy oblasts.

Some managers and specialists, however, have not yet become aware of the significance of intensive methods of economic management for attaining excellent end results. A great deal is being said about the collective contract but little is being done to incorporate it by Agroprom officials in Poltava, Kirovograd and Ternopol oblasts.

Scientifically, Without Unnecessary Simplification

Hero of Socialist Labor V. M. Tkachuk, chairman of the Banner of Communism Kolkhoz in Kolomiyskiy Rayon, Ivano-Frankovsk Oblast, had plenty to tell the conferees. The farm he heads has become a pioneer in adopting an intensive technology of growing winter crops in this republic. Thanks to this, in the last 5 years grain production on this farm has almost doubled. They have sold the state 1,141 tons of grain above and beyond the 5-year plan target. The winter grain yield last year ran 55.5 quintals on each of 770 sectors.

The conferees stated that intelligent adoption of intensive technologies is the way to go in order to boost the country's food resources. Last year, adopting application of nitrate fertilizers ground into small particles and an integrated system of plant protection over an area of 1,350,000 hectares, the republic's grain farmers produced a per-hectare yield increase of 11.6 quintals. This is somewhat above the national average. On a number of farms in Ivano-Frankovsk, Kiev, and Vinnitsa oblasts, where they have approached the adoption of an aggregate of technology-related measures in a scientific manner, without unnecessary simplification, winter grain yields have exceeded 60 quintals.

Considerable attention at the conference was devoted to matters pertaining to adopting the continuous-flow shop system of milk production and herd reproduction. It was particularly emphasized that the experience of the Lvov farmers, which has been approved by the CPSU Central Committee, is being extensively adopted throughout the country. But the most practical and businesslike adoption is being done in the Ukraine, on the farms of Vinnitsa, Volyn, Voroshilovgrad, Odessa, Ternopol, and Chernigov oblasts. The conferees visited a number of animal husbandry units and operations, becoming acquainted with their work activities.

It was noted that in Lvov Oblast production cost of milk has dropped considerably and milk quality has improved due to adoption of this new system. The Kolkhoz imeni Lopatin in Sokalskiy Rayon can serve as an example for analysis. Adopting an intensive technology in their dairy cattle operation, they have increased productivity per head by a factor of almost 1.5. Last year they produced 4,923 kilograms of milk per cow, producing 1,160 quintals of milk per hectare on 100 hectares of farm land. Almost the entire milk production was graded A. The dairy farming operation produced more than 250,000 rubles net income.

Adoption of intensive technologies should be more closely linked with incorporation of the collective contract. Intensive-type fields should be assigned to teams, brigades, and crews not operating on the basis of a work order, units which have become genuine proprietors in the field and in the livestock unit.

Party, soviet, and economic agencies should devote greater attention to increasing the level of workers' knowledge. Farm machinery operator universal primary education in the village should become a genuine university for deepening farmers' knowledge and providing thorough teaching of the finer points of intensive methods of growing grain and row crops, as well as advanced forms of organization of labor and labor incentive. Attention at the conference was directed toward a typical mistake which is still being made in the work of many workforces and which in the final analysis leads to failure to produce an adequate crop -- inadequate monitoring of thickness of the stand. Ensuring an optimal stand density from the spring, caring for the growing plants in a quality manner and when required, a considerable increase in crop production should be ensured.

The problem of providing livestock operations with full-value feeds was also discussed at the conference. Speakers pointed to the need to increase protein content in livestock feed. This can be achieved by expanding acreage planted in high-protein feed crops, such as soybeans, for example. Our republic has considerable potential for growing soybeans in the southern oblasts. Only in the Crimea, however, is a genuine effort being made to grow this crop. For some reason soybeans are not given adequate attention by the farmers of Kherson and Nikolayev oblasts.

Rape is also a promising high-protein crop. Wherever pains are taken to apply proper growing techniques, good results are obtained, particularly on the above-mentioned Banner of Communism Kolkhoz in Kolomiyskiy Rayon, Ivano-

Frankovsk Oblast. Year after year they have been producing a yield of about 40 quintals of rapeseed per hectare. They have good-quality fodder and generate high profits from the sale of rapeseed.

The conclusion reached at the conference is as follows. Local party, trade union, and Komsomol organizations, Agroprom committees, rayon agroindustrial association councils, farm managers and specialists should work in a more substantive manner to adopt economic accountability, the collective contract, and intensive techniques in crop farming and animal husbandry. These are decisive factors in acceleration.

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AGRO-ECONOMICS AND ORGANIZATION

FINANCIAL OPERATIONS OF KUBAN APK EXAMINED

Moscow FINANSY SSSR in Russian No 1, Jan 86 pp 17-23

[Article by V. N. Semenov, doctor of economic sciences: "Expanding Economic Independence"]

[Text] The draft of the new edition of the Program of the Communist Party of the Soviet Union determines the party's economic strategy--transition to production intensification and improvement in national economic management.

"The acceleration of the country's social and economic development," the draft of the program points out, "requires a constant improvement in the management of the national economy and a reliable and efficient functioning of the economic mechanism, which includes diverse flexible forms and methods of management, striving for their correspondence to the changing conditions of economic development and to the nature of the tasks being accomplished."

Improvement in the management of agriculture is dictated by the need to increase the efficiency of utilization of the additional funds allocated for the fulfillment of the Food Program and to mobilize existing resources for increasing the production of agricultural products on kolkhozes and sovkhoses and for lowering their production cost. In this respect of great interest is the activity of the Kuban Agroindustrial Combine established in Timashevskiy Rayon, Krasnodar Kray, whose activity is planned and financed as a single whole. The combine is the only master on land and solves all problems connected with the production, procurement, transportation, storage, processing, and sale of agricultural products on the basis of cost accounting and self-support. The combine includes kolkhozes, interfarm organizations, sovkhoses, a meat combine, a dairy plant, a sugar plant, a rayon food combine, an elevator, associations of the Scientific Production Association for Agrochemical Services to Agriculture and of the Agricultural Equipment Association, a hemp plant, transport organizations, a procurement office of the Central Union of Consumer Cooperatives, and trade enterprises located in Timashevskiy Rayon under the subordination of various ministries and departments. Furthermore, the combine includes the Adlersk Tea Association with sovkhoses and processing enterprises and the Tuapse Fur Sovkhoz located outside the rayon. When the combine was established, it was subordinate directly to the RSFSR Ministry of Agriculture.

The Kuban Agroindustrial Combine, utilizing the property assigned for its day-to-day management or use, carries out production and economic activity in accordance with the plans for economic and social development, performs the duties imposed on it, is responsible for and uses the rights connected with this activity, has its independent balance and is a legal entity. The combine's activity is built on the basis of consideration of the interests of the entire national economy, of the combine itself and of its constituent enterprises and organizations and of a correct combination of centralized planned management with economic independence and initiative. The statute on the Kuban Agroindustrial Combine stresses the following: 1) the combine is a cost accounting enterprise; 2) the combine's constituent enterprises retain their economic independence and the rights of a legal entity.

Two forms of production associations have emerged in our country, that is, where enterprises forming part of an association function as its structural subdivisions and where the full economic independence of enterprises is retained. Mutual relations with the bank, the budget, suppliers, and consumers result from these forms of organization.

However, it should be kept in mind that such associations include only homogeneous enterprises. With regard to the Kuban Combine it includes various state and cooperative enterprises and organizations located in one rayon and engaged in the production, transportation, processing, and sale of agricultural products. The combine itself acts as a legal entity, whose activity is built on a cost accounting basis. This is a totally new form of production management combining centralized management with broad independence of enterprises, which has required a change in the procedure of financing, payments to the budget, crediting, settlements of accounts for received and dispatched commodity stocks, formation of prices of agricultural products, and so forth. In practice, the combine began its activity in 1985, whereas the statutes and acts regulating its activity were issued during the year. Therefore, 1985 is the year of the combine's formation and of the search for new forms of management.

To be sure, a more profound and detailed analysis of the combine's activity will be made in several years. However, in our opinion, the first steps, developments, and new solutions in the management of heterogeneous enterprises connected by a single technological chain from the production to the sale of agricultural output and the products of its processing right now are of indisputable interest to a wide range of economists, especially as the decisions of the April (1985) Plenum of the CPSU Central Committee on the planning and financing of the agroindustrial complex as a single whole are concretely embodied in the activity of this combine. In connection with the limited size of a journal article we examine basically the combine's financial-credit mechanism, although we also set forth problems of management and relations among enterprises.

As already stated, the production, procurement, processing, storage, transportation, and sale of agricultural products, raw materials, and high-quality foodstuffs on the basis of further intensification, cost accounting, self-support, increase in the efficiency of production, storage, processing, and sale, and provision of a full waste-free utilization of all produced

agricultural products are the combine's basic tasks. The task of improving the supply of food products for the population, primarily in health-resort regions in Krasnodar Kray, has been set for the combine.

A council, which includes the combine's director-general--chairman of the council--his deputies, managers of the combine's constituent enterprises and organizations, and representatives of labor collectives, is the combine's supreme body of management. A presidium of the council is created for a prompt solution of problems during the period between meetings. A separate managerial staff, which is maintained with deductions put down by enterprises and organizations to the production cost of sold products and performed operations, as well as with the income obtained by the combine from a centralized implementation of production and economic functions, manages the combine's daily activity. At the same time, the combine independently works out and approves, within the limits of the schemes of salaries and maximum appropriations for the maintenance of the managerial staff set for it, a table of organization for the managerial staff of the combine and of its constituent state enterprises and organizations. The combine's table of organization is not registered in financial bodies.

Five-year and annual plans for the combine's economic and social development envisage volumes of deliveries of products to all-Union and republic stocks on the basis of the plans for its production activity, payments to the budget, appropriations from the budget, the total wage fund and volumes of material and technical resources allocated to the combine. On the basis of planning indicators and existing possibilities the combine's council approves the plans for enterprises and organizations.

The volumes of deliveries of fruits, grapes, vegetables, meat, milk, and eggs to all-Union and republic stocks are planned for the combine by the Krasnodar Kray Executive Committee in coordination with the RSFSR Agroprom with due regard for the volumes of production and sale of products directly by the combine through its trade network at the prices set by it. The plans for the utilization of other items--sugar, pulp residues, molasses, sunflower oil, oil-seed meal, cakes, grain products, and so forth--are approved by the combine's council. The products left at the combine's disposal are taken into account in plans for the distribution of products.

The Kuban Agroindustrial Combine has been given broad rights not only in the area of production planning, but also the procurement of agricultural products. The combine's council establishes for kolkhozes and sovkhoses plans for the sale of grain, sugar beets, sunflowers, vegetables, fruits, livestock, poultry, milk, wool, and other agricultural products for processing and trade enterprises and organizations. The combine performs the functions of a procurement organization. In connection with this the conclusion of forward contracts for the purchase of agricultural products has been entrusted to the procurement and processing enterprises and organizations subordinate to it--the meat combine, milk plant, sugar plant, elevator, hemp plant and so forth.

The purchase of agricultural products from kolkhozes and sovkhoses by the combine's constituent enterprises and organizations is made at existing state purchase prices with the set additional payments and discounts for quality.

At the same time, a 50-percent increase for exceeding the attained level of sale of products to the state is also paid to them. Purchases of surplus agricultural products from the population are made at agreed prices. The combine's council is given the right to set prices of products sold inside the combine, as well as rates and prices of rendered services, at the same time, not infringing upon the cost accounting interests of its constituent enterprises and organizations.

The products of the combine's enterprises and organizations are received at all-Union and republic stocks in accordance with the assignment at existing state prices (wholesale or retail prices after deduction of trade and sale discounts). Prices of agricultural output and of products made from it sold by the combine through its own trade network, at the market and to other consumers are set by the combine's council with due regard for the quality of products, their packaging and the demand for them.

The granting of broad rights in the area of price formation to the combine envisages the compensation for expenditures on the production, storage, processing, and transportation of products, as well as the provision of accumulations necessary for production expansion. Thus, the combine, in fact, is self-supporting. At the same time, products are sold directly to consumers at prices higher than retail state prices. In connection with this, naturally, a serious problem--the combine's provision of a high level of accumulations--arises.

The transition to self-support and granting of broad rights to the combine in the price formation area help it to manifest economic and operational independence and eliminate excessive regulation on the part of superior bodies. The sale of products at prices set by the combine involves less than one-fourth of all the produced meat and dairy products, although the combine buys meat and milk at prices higher than retail prices. Moreover, the combine sells products through its trade network and market at prices much lower than market prices and slightly lower than commission prices of consumer cooperatives. The combine's products are of a higher quality than in state trade (cooled meat, meat offals, a wide variety of sausages, tea in souvenir packaging, boiled corn ears, selected fruits and vegetables, and so forth).

As a result of the significant expansion of the assortment of products and improvement in their quality, the combine succeeded in affecting market prices to a certain extent in the health-resort zone, appearing as a serious competitor to the owner of a private business.

Acting as a trust or a production association with respect to enterprises and organizations in the sphere of the planning of the wage fund, the combine approves the assignment for labor productivity growth, the total number of workers and the total wage fund for them and the total wage fund with a quarterly breakdown for sovkhozes, and redistributes it among farms. With the transition to the standard method the combine will approve the wage standard for enterprises and organizations. A bank institution gives the combine, when the plan for the sale of products is overfulfilled, 0.8 percent of its standard, that is, in accordance with the procedure established for sovkhozes.

The combine has been granted the right, within the existing procedure, to develop and approve a wage and bonus system for workers, engineering and technical personnel, managers and specialists of its constituent enterprises and organizations, as well as for workers on the combine's managerial staff, within approved wage and material incentive funds. Rights in the finance area have been established in the volume determined for production associations; in particular, the right to redistribute superfluous equipment, transport facilities, materials, fuel, and other resources not used by the combine's constituent state enterprises and organizations, as well as circulating capital, in the form of its redistribution according to the annual report.

Centralized funds for production development, social-cultural measures and housing construction, and material incentives, as well as a reserve fund, are created at the combine. Centralized funds for production development and the combine's reserve fund are formed from deductions from the profit of enterprises and organizations and centralized funds for social-cultural measures and housing construction and for material incentives, as a result of the centralization of part of the capital of appropriate funds. At the same time, the centralization of the capital and funds of kolkhozes can occur only with their consent. The standards of deductions into centralized funds and the procedure of their utilization are determined by the combine's council.

The transition to self-support predetermined the change in the existing procedure of the combine's financing. Budgetary appropriations are allocated to the combine only for financing the construction of water resources projects, measures for the development of new land and enterprises for the processing and storage of agricultural products and for the production of packaging materials. The existing procedure of financing livestock complexes and poultry factories has been retained. The construction of large dairy livestock complexes is carried out at the expense of the budget.

Big changes concerned problems of financing housing and cultural-general projects, training personnel for preschool institutions and operational expenditures. In 1984 the combine received appropriations from the budget for the maintenance of children's preschool institutions in the amount of 1.1 million rubles, for the construction of housing and projects for cultural-general purposes, 2.4 million rubles and for the control of animal diseases and pests of agricultural plants, 74,000 rubles. These expenditures are now reimbursed from the combine's profit.

In the area of capital construction the combine has been granted the right to determine and approve limits of capital investments, their allocation and title lists for the construction of projects valued at 1 to 4 million rubles, as well as limits of planning and contract work for the combine's enterprises and organizations. It should be stressed that the RSFSR Agroprom does not establish limits of capital investments for the combine. They are determined directly by the combine on the basis of available financial resources (internal capital, budgetary appropriations and long-term bank loans) and funds for building materials and equipment and of contract work coordinated with construction organizations. Title lists for the construction of projects of an estimated value of up to 1 million rubles are approved by managers of

enterprises and organizations. The limit of capital investments determined by the combine should be within their total limit in the RSFSR Agroprom.

The combine has been granted the right to redistribute sources of financing among construction projects fulfilling and overfulfilling capital construction plans. This redistribution is made within the general plan for financing capital investments. In some cases the combine can also make changes in plans for construction and installation work and for the commissioning of capacities and projects during the year.

Thus, the complexity of the combine's operation lies in the fact that it manages the activity of enterprises and organizations previously subordinate to different ministries and departments with different systems of wages, incentives, profit distribution, and formation of funds for economic incentives, financing, and crediting. Furthermore, every enterprise has its own interests stemming from its cost accounting rights. Therefore, in financial-credit matters a great deal was solved in a new fashion in accordance with the tasks set for the combine as an economic unit.

A financial accounting center for the performance of operations among the combine's constituent enterprises and organizations, as well as with supply, procurement, processing, trade, and other enterprises and organizations, with the State Bank and with the budget was created in the Kuban Agroindustrial Combine. The combine is the only payer with respect to all the monetary obligations of the combine and of its constituent enterprises and organizations, the only recipient of budgetary appropriations and payments to the budget and the only loan borrower. Therefore, it acts as an association, in which enterprises are in the position of structural subdivisions. However, precisely in it all enterprises and organizations, retaining their economic independence, perform all calculations through its financial accounting center, not bank institutions.

Current and special loan accounts, an account for financing capital investments and other accounts, the need for which is the consequence of centralization of functions by the combine, were opened for the Kuban Combine in a bank department. Short-term credits for the aggregate need for loans against credited physical assets and production expenditures arising in the process of fulfillment of the plan for the production and sale of products without a subdivision into objects of crediting are issued from the special loan account. The proceeds from the sale of products and performed operations and services of the combine's enterprises and organizations are entered in this account and assigned for the liquidation of issued loans with the exception of profit and depreciation allowances for a full replacement and major repairs of fixed capital, for wages for workers of enterprises and organizations and the combine's managerial staff, for wages for kolkhoz members and for urgent needs. These funds are transferred to the combine's current account in a bank department.

Therefore, proceeds for sold products and rendered services are received in the combine's special loan account. The combine's constituent enterprises and organizations directly write out payment demands for shipped products, submitting them to the financial accounting center, not to a bank department.

With regard to the shipment of products to out-of-town recipients, enterprises and organizations on behalf of the combine put forward payment demands to a bank department at places of their location.

As a result of such a formulation of accounts, the financial accounting center, in practice, performs the functions of a bank institution. Under these conditions counterflows of monetary assets are reduced sharply, that is, the entire internal turnover--sovkhoz (kolkhoz)-transport organizations-procurement and processing enterprises and organizations--is excluded from the monetary flow. Monetary assets are received in the combine's account only from out-of-town recipients and the internal trade network for the sale of products. Out of the total amount of sold products by all the combine's enterprises and organizations (more than 300 million rubles) the final product accounts for less than 50 percent.

Current accounts, which reflect all daily accounting-monetary operations, are opened in the financial accounting center for the combine's constituent enterprises. The financial accounting center submits to enterprises and organizations extracts from their current accounts.

Current accounts are opened for the combine's constituent enterprises and organizations in bank institutions at places of their location. Funds for the payment of wages and payments equated with them, for urgent needs and for other expenditures, including the payment of ready cash to individual deliverers of agricultural products, are transferred to these accounts from the combine's current or special loan account. The opening of such accounts is brought about primarily by the fact that some enterprises (the tea production association and the Tuapse Fur Sovkhoz) are outside Timashevskiy Rayon, in which the combine's management is located. Therefore, the ready cash turnover, in fact, is carried out through the State Bank.

The formulation of accounting-monetary operations through the financial accounting center does not violate the cost accounting rights of enterprises. Kolkhozes, sovkhozes and other enterprises and organizations forming part of the combine as independent facilities have all the rights in the disposal of monetary assets and profit. The profit of enterprises and organizations is distributed in accordance with the procedure in effect for them. They make deductions into economic incentive funds and settle wage accounts with workers, employees, and kolkhoz workers. A single procedure of profit distribution and formation of economic incentive funds similar to that in effect on sovkhozes has been developed in the combine for all enterprises and organizations. With regard to settlements of accounts with suppliers and purchasers, they are made by the financial accounting center performing simultaneously the functions of a superior body of management and of a bank institution. All the proceeds from the sale of products and rendered services are in the combine's circulation. With the undistributed profit and unutilized depreciation allowances the financial accounting center provides temporary financial assistance to individual enterprises and organizations in the form of credit and reduces the need for short- and long-term bank loans by the amount of this capital. In this case there is a direct saving on the payment of interest on bank loans.

The combine directly receives short-term loans in a bank institution for the aggregate need for loans against credited physical assets and production expenditures arising in the process of fulfillment of the plan for the production and sale of products without their subdivision according to objects of crediting. The financial accounting center determines the need of every enterprise and organization forming part of the combine for loans.

The granting of credit to the combine for the aggregate need for loans has required the determination of the amount of interest rate on credit, because these rates on short-term loans at enterprises and organizations are set as follows: from 1 percent on kolkhozes and for young livestock and feed on sovkhozes, up to 3 percent for commodity stocks on sovkhozes, up to 5 percent, at industrial enterprises and up to 8 percent for unmarketable and superfluous stocks.

On the average, in 1984 the enterprises and organizations of the Kuban Combine paid 2 percent of annual interest on all types of short-term loans. The combine pays 2 percent of annual interest on short-term loans and 0.75 percent, on long-term loans to the bank, as is in effect for kolkhozes and sovkhozes, and 5 and 3 percent, on overdue loans respectively. At the same time, the financial accounting center, depending on the financial status of enterprises and organizations, can set differentiated rates for the use of bank credit.

Significant changes have been introduced into the existing procedure of financing capital investments, which is carried out according to a single financial plan with the use of all sources--internal capital, budgetary appropriations and bank credit. Accounts both for the purchase of equipment and for construction and installation work are settled with contracting organizations by the financial accounting center in a centralized manner. The combine's constituent enterprises and organizations settle accounts for purchased equipment and performed operations, using their own capital, directly with the financial accounting center. Budgetary appropriations, long-term loans and capital issued by the combine from centralized funds are taken into account by the financial accounting center for enterprises and organizations within the limit of capital investments approved by the combine's council.

Budgetary appropriations are allocated to the combine in accordance with existing legislation on the basis of their actual purpose during preceding years and the growth of the volume of capital investments.

In accordance with the plan internal capital, budgetary appropriations and long-term bank loans are entered in the combine's current account for the financing of capital investments every quarter. Budgetary appropriations and long-term loans are entered in this account with an advance every quarter within the limit of annual purposes. At the end of a quarter for projects built with budgetary appropriations and long-term loans the combine submits a report on the cost of the volume of work performed in a quarter to a State Bank department. On the expiration of a quarter unutilized budgetary appropriations and loans are taken into account during the allocation of appropriations and long-term credits for the capital investments of the next

quarter. At the same time, at the end of the year unutilized budgetary appropriations are transferred to the budget and their issue during the following year is reduced by the amount of unutilized loans.

The long-term loans received by the combine are formulated by time obligations at the end of the year:

- a) for the construction, expansion, reconstruction, and retooling of production projects, up to 20 years with a liquidation as of the fifth year;
- b) for the purchase of agricultural equipment, transport facilities, and equipment not included in construction estimates--up to 7 years with a liquidation as of the third year;
- c) construction of nonproduction projects on kolkhozes--up to 15 years with a liquidation as of the fifth year.

The Kuban Combine settles accounts with the budget in a centralized manner. Only two types of payments--deductions from the profit and the turnover tax--have been set. Enterprises and organizations transfer the income tax on workers and employees and the tax on bachelors, single women and citizens with small families to the budget in accordance with the established procedure.

Payments from the profit have been set for the combine at the rate of 15 percent, that is, on the basis of actual payments in 1984 corrected for a change in payments on sovkhozes and at the sugar plant and expenditures on production expansion put down to the profit, which is evident from the following data (million rubles):

profit--total	73.5
payments to the budget	14.8
expenditures on the maintenance of children's preschool institutions, financing of housing and municipal projects and operational expenditures incurred from profit	3.6
total payments	11.2
payments to the budget--total in %	15

Payments to the budget from the profit envisaged according to the plan are made by the combine to the republic budget every month in the amount of one-third of the quarterly sum of payments with a subsequent recalculation according to the actually obtained annual profit.

The Timashevskiy Rayon Financial Division has been entrusted with control over the combine's prompt and full planned payments from the profit to the budget. In case payments to the budget are not made on the scheduled dates, the due amounts are exacted unquestionably. If, as a result of an account check of the balances of enterprises and organizations the profit is increased, or superfluous deductions into economic incentive funds formed from the profit are uncovered, the amount of payments to the budget should be refined.

The combine pays the turnover tax at firm rates on grain products and beer in the set amounts. When the combine produces other goods subject to turnover

taxation, the RSFSR Ministry of Finance is given the right to set firm rates in rubles per unit of output in coordination with the RSFSR Agroprom. Firm turnover tax rates make it possible to increase income, not only raising production, but also improving the quality of products and selling them at higher rates.

For making late payments and paying late taxes to the budget a penalty is imposed on the combine: 0.05 percent per day of default from the day following the date of payment through the day of the actual payment inclusive.

The significant excess of purchase prices over retail prices does not enable the Kuban Combine to change over to full self-support. The difference between these prices of products delivered to all-Union and republic stocks is reimbursed to the combine in accordance with the usual procedure. The sale of agricultural equipment and mineral fertilizers is made at release prices set for kolkhozes and sovkhoses.

Procurement organizations and processing enterprises forming part of the combine take into account incoming agricultural products (livestock, poultry, milk, grain, and oil crops) at existing current prices with due regard for quality. These products are taken into account at current prices during the costing of produced products. At the same time, kolkhozes and sovkhoses receive a payment for the products sold by them at purchase prices and 50-percent purchase price increases for exceeding the attained level of sale of products during the 10th (11th) Five-Year Plan, as well as the expenditures on their delivery, are paid out to them.

The Kuban Combine submits to a bank department monthly calculations of the difference between purchase and current prices of agricultural products purchased by the combine's procurement organizations and processing enterprises and organizations from kolkhozes and sovkhoses both forming part of the combine and outside it, whose sale is credited toward the plan for deliveries to all-Union and republic stocks. Since deliveries of meat and dairy products to all-Union and republic stocks are made in a form ready for use, they are recalculated according to coefficients into initial products and raw materials--livestock and poultry in live weight and milk.

Simultaneously with this the combine submits to a bank department the sums of 50-percent purchase price increases for agricultural products sold by kolkhozes and sovkhoses in excess of the attained sale level during the 10th (11th) Five-Year Plan that are due it. It should be noted that these increases are paid out to kolkhozes and sovkhoses for all due products sold in excess of the attained level, whereas they are paid out to the combine only for products delivered to all-Union and republic stocks. The calculation for the payment of increases is made in accordance with the same procedure as for the compensation for the difference in prices, that is, in the share of increases paid out to farms corresponding to the volume of output delivered to all-Union and republic stocks in relation to the total volume of output credited toward the plan for sale to the state at the Kuban Combine.

Since the payment for all purchased agricultural products is made from a special loan account with bank credits, the difference in prices is taken into

account during the verification of the combine's security for debts in the special loan account in a bank department on the basis of the difference in prices and expenditures from these proceeds. In this case, debts in the special loan account are reduced by the amount by which expenditures exceed receipts. At the same time, debts in this account are increased by the amount by which receipts exceed expenditures.

The combine's debts to the bank in connection with loans obtained for the compensation for the difference in prices for the purchase of agricultural products and for the payment of a 50-percent purchase price increase are reported by the Timashevsk Department to the kray State Bank office and by the latter, to the republic State Bank office. The compensation for debts for the difference in prices of livestock, poultry, milk, dairy products, and canned fruits and vegetables is made by the USSR Ministry of Finance and by ministries of finance of the Union republics respectively from appropriations provided for this in the republic budget and of grain and oil seeds, in the Union budget through accounts for the regulation of the difference in prices. The difference in prices of potatoes and vegetables is compensated by appropriations provided for the combine. Therefore, bank loans issued by the Timashevsk Department for the compensation for the difference in prices of agricultural products and for the payment of 50-percent purchase price increases are liquidated from the budget in a centralized manner.

Since the compensation for the difference in prices of livestock, poultry, milk, dairy products, grain, oil seeds, potatoes, vegetables, and canned fruits and vegetables is made only in a share delivered to all-Union and republic stocks, the remaining amount of difference is compensated by the combine from the profit obtained from the sale of products at prices set by the combine's council. The basis for the idea of the combine's self-support lies in this.

The activity of the Kuban Agroindustrial Combine is connected with changes in the planning, price formation, financing, crediting, and accounting of both its constituent enterprises and organizations and of the combine as a whole. In 1985, in practice, the organizational problems of the combine's activity were solved and a procedure for the combine's relations with the budget and the bank was worked out. A system for the transfer of all enterprises and organizations to new financing, crediting, and accounting methods, including profit distribution and the formation of economic incentive funds, should be fully developed in 1986. The combine's financial accounting center should do this work. Financial bodies and bank institutions must provide assistance to the combine in improving the financial-credit mechanism for increasing the efficiency of work so that the agroindustrial complex may be managed, planned, and financed as a single whole at all levels in accordance with the provisions of the draft of the Basic Directions in the Economic and Social Development of the USSR for 1986-1990 and for the Period Until the Year 2000.

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AGRO-ECONOMICS AND ORGANIZATION

ADMINISTRATIVE, FINANCIAL SYSTEM OF USSR GOSAGROPROM OUTLINED

Moscow FINANSY SSSR in Russian No 2, Feb 86 pp 3-7

[Article: "Planning and Financing the Agroindustrial Complex as a Single Whole"]

[Text] USSR Agroindustrial Complex plays the main role in supplying the country's population with food and industry with agricultural raw materials and in the development of retail commodity turnover. Agricultural products and goods made from them satisfy consumer demand for food products by 95 percent and create over 70 percent of retail commodity turnover and taxes from turnover going into the budget.

At the same time, the socio-economic development of the APK [Agroindustrial Complex] requires large material and financial resources. In 1986 149 billion rubles were allocated for this purpose from all sources, an increase of 7.1 percent over 1985. Allocations for branch development, which will contribute to the implementation of the Food Program and includes housing construction for agricultural workers, equal 58.7 billion rubles of capital investments. This is significantly more than in 1985. Extensive material and financial resources directed at the implementation of the Food Program must be utilized with greatest effectiveness for the purpose of increasing agricultural production output with the smallest expenditure of manpower and resources, and of achieving the preservation of these products at all stages of production, transport, storage and processing.

The tasks established in the draft of the new edition of the Program of the Communist Party of the Soviet Union and in the draft of the Basic Directions of Economic and Social Development of the USSR in 1986-1990 and to the Year 2000 related to increasing the effectiveness of public production and to improving management of the national economy are the basis for the necessity to make a transition to APK management as a single whole at all levels.

In accordance with the decisions of the May 1982 Plenum of the CPSU Central Committee, a number of measures on improving APK management were implemented. Oblast and rayon agroindustrial associations were created. The RAPO [Rayon Agroindustrial Association] has been given extensive rights in solving many questions--centralization of funds for economic incentives, redistribution of non-utilized capital investments and material-technical resources among

enterprises and the confirmation of estimates and prices for jobs and services carried out by rayon enterprises and organizations. To strengthen contractual relations and increase the responsibility of both parties with regard to the delivery of machines and mineral fertilizers and to completed work, material responsibility of suppliers and consumers has been introduced. These measures have enabled us to a certain degree to improve the use of the production potential created within agriculture as well as of material and financial resources allocated for APK development. However, departmental separateness of enterprises and organizations within the complex, reflected in planning and financing, eliminated the possibility of maneuvering with material and financial resources allocated for the oblast or rayon by individual enterprises and organizations subordinate to different departments.

A fundamentally new step in improving APK management is the development of the Estonian Agroindustrial Association and the Georgian Agroindustrial Committee on the basis of the ministries of agriculture and reclamation and water resources and the state committee for material-technical supply to agriculture. In these republics the planning and financing of agroproms [Agroindustrial committees] is being implemented from top to bottom as a single whole. Nevertheless, the Estonian Agroindustrial Association and the Georgian Agroindustrial Committee managed only a part of the sovkhozes; the processing of agricultural products was implemented by enterprises and organizations of other departments. At the same time questions of improving management in the upper echelons and on the level of union ministries were not yet solved, which limited the opportunity to more efficiently utilize material and financial resources. This was reflected with particular acuteness in the problems of preserving and processing products, and first and foremost--fruit and vegetable products and tea.

The Kuban Agroindustrial Combine was created in Timashevskiy Rayon of Krasnodar Kray--its operations are planned and financed as a single whole. The combine is the single manager of the land and deals with all questions relating to the production, procurement, transport, storage, processing and sale of agricultural products on the basis of cost accounting and self-support. The combine is made up of all kolkhozes, interenterprise organizations, sovkhozes, the meat combine, the dairy plant, the sugar plant, the rayon food combine, the elevator, the hemp mill, the associations of Selkhozkhimiya [Agricultural Chemical Association] and Selkhoztekhnika [Agricultural Equipment Association], and procurement and transportation organizations located within a single rayon but previously subordinate to various ministries and departments. The basic tasks of the combine involve the production, procurement, processing, storage, transport and sale of agricultural products, raw materials and high-quality food items on the basis of continued production intensification, cost accounting and self-support, and the achievement of waste-free use of all products that are produced.

The generalization and study of the work experience of the RAPO and the agroindustrial committees and associations of the Georgian and Estonian SSR's as well as of Kuban Agroindustrial Combine has enabled us to establish the advantages of new forms of management and to correctly evaluate shortcomings resulting from departmental separateness. The country's agroindustrial complex was not formulated as an organization, which resulted in the planning

and financing of its operations from top to bottom by individual ministries and departments utilizing different systems of planning, finance, credit, profit distribution and development of economic incentive funds. Individual local economic units of public production subordinate to various union ministries and departments along rising lines existed on the level of the primary link of the complex-rayon. This type of planning and financing model on the macro- and micro- levels corresponded to the development of production forces within the agroindustrial complex. Nevertheless, in connection with the intensification of the national economy a fundamentally new mechanism for APK management was required. This was also based on growing material-technical supplies for agriculture and on the necessity for the proportional development of processing branches of industry, which was specially noted at a meeting of the CPSU Central Committee on 6-7 December 1985.

At the same time as practical experience has shown, due to the imperfection of the APK management structure on a union and republic level the necessary integration of the agricultural and processing industry has not occurred and there have been no important changes in the economic mechanism of interrelations among kolkhozes, sovkhozes and service organizations.

The April 1985 Plenum of the CPSU Central Committee formulated principled directives on APK planning, financing and management as a single whole. This question was reflected in the party's program documents for the 27th CPSU Congress. The draft for the new edition of the Program for the Communist Party of the Soviet Union indicates that the CPSU is establishing the task of systematically implementing measures on improving the organizational structure for managing the national economy at all levels.

Operating on the basis of the directives of the April 1985 Plenum, the CPSU Central Committee and USSR Council of Ministers passed a resolution, "On Further Improvements in the Management of the Agroindustrial Complex." In accordance with this resolution, a union-republic USSR State Agroindustrial Committee (USSR Gosagroprom) was created on the basis of the USSR Ministry of Agriculture, the USSR Ministry of the Fruit and Vegetable Industry, the USSR Meat and Dairy Industry, the USSR Ministry of the Food Industry, the USSR Ministry of Agricultural Building and the USSR State Committee for Production-Technical Supply to Agriculture.

At the same time the inspectorate for the procurement and quality of agricultural products, with the exception of the grain inspectorate, was transferred from the USSR Ministry of Procurement to USSR Gosagroprom, and the ministry itself has been restructured into the union-republic USSR Ministry of Grain Products with the transfer to it of enterprises and organizations of the bread-baking and macaroni industry and the corresponding scientific-research institutions from the abolished USSR Ministry of the Food Industry. Additionally, enterprises for the primary processing of cotton, flax and other bast fiber crops, and wool and corresponding scientific-research institutions have been transferred from the USSR Ministry of Light Industry to USSR Gosagroprom, and from the USSR Ministry of Reclamation and Water Management--the consultation function of plans and estimates, the determination of limits for capital investments and for financing reclamation work and the reception

of completed building objects, which will strengthen controls over the quality of the work that is performed.

Thus, the enterprises and organization involved in the production, procurement (with the exception of grain products), storage and processing of agricultural products as well as village building are concentrated within USSR Gosagroprom. With the goal of improving capital building in the APK, of effectively utilizing the building industry base that has been created and of eliminating parallel links, republic and local party and soviet organs have been told to examine the question of developing cooperative-state or state-cooperative associations in rayons, oblasts, krays and republics on the basis of building organizations of MinSelkhozstroy [Ministry of Tractor and Agricultural Machine Building] and the Ministry of Rural Construction based on specific conditions.

USSR Gosagroprom is the central organ of government management of the country's APK and together with the councils of ministers of union republics it bears the complete burden of responsibility for increasing production, for fulfilling plans related to the procurement of agricultural products and for achieving their full preservation, quality processing and significant expansion of the assortment of food articles. The making of decisions by USSR Gosagroprom within the limits of its competency is mandatory for their fulfillment by all ministries and departments as well as institutions, associations, enterprises and organizations. USSR Gosagroprom carries out its functions under the leadership of the USSR Council of Ministers, and the gosagroproms of union republics, krays and oblasts, and rayon agroindustrial associations--under the leadership respectively of the councils of ministers of the union and autonomous republics and executive committees of krays, oblasts and rayon soviets of people's deputies.

USSR Gosagroprom, the gosagroproms of union and autonomous republics, krays and oblasts, and the RAPO and sovkhozes, enterprises, organizations and institutions subordinate to it, as well as kolkhozes, form a single system for the country's state agroindustrial complex. In addition to enterprises and organizations of USSR Gosagroprom this system with single planning and financing includes the USSR Ministry of Grain Products, the USSR Ministry of Reclamation and Water Resources, the USSR Ministry of the Fish Industry, the USSR State Committee on Forestry as well as Tsentrosoyuz [USSR Central Union of Consumers' Societies], which retains the functions and rights foreseen by its statute. The Ministry of Tractor and Agricultural Machine Building, the Ministry of Machine Building for Livestock Raising and Feed Production, the Ministry of Machine Building for the Light and Food Industries and Consumer Goods, the Ministry on the Production of Mineral Fertilizer, the Ministry of Medical and Microbiological Industry, which produce means of production and other resources for the agroindustrial complex, closely coordinate their work with USSR Gosagroprom.

The resolution of the CPSU Central Committee and USSR Council of Ministers, "On Further Improving the Management of the Agroindustrial Complex," emphasizes that the development of a single system for managing the country's APK will yield the necessary effect only under conditions of a clear determination of rights, obligations and specific responsibilities at every level of management of the agroindustrial complex.

As the central management organ, USSR Gosagroprom must focus its attention on solving the basic problems related to the acceleration of scientific-technical progress and achieve scientifically-based planning, financing and improvement of economic methods for managing enterprises and cost-accounting relations, the implementation of scientifically-based price formation, the introduction of progressive forms of labor organization and wages and normative methods of material-technical supply. USSR Gosagroprom has been given the responsibility of improving capital building and planning, of economizing in the use of resources and material resources, and of achieving strict controls over the balanced development of branches of the complex, over the implementation of integration of agriculture and the processing industry, and over the development of the material-technical base for the storage and shipment of products.

The gosagroproms of union and autonomous republics, krais and oblasts must orient their activities toward solving the problems of improving the territorial structure of the agroindustrial complex, of developing production specialization and concentration and of equalizing economic management conditions in kolkhozes, sovkhoses and other enterprises.

Special significance is attached to the work of rayon agroindustrial associations. The RAPO's, as the primary links within the system of management of the agroindustrial complex, must direct their efforts above all at the unconditional fulfillment of government orders with regard to the delivery of products in the established assortment, at the effective utilization of available production potential, at achieving growth in labor productivity, at curtailing expenditures per unit of production, at accelerating return on investments and at increasing production profitability.

The development of a single system for managing the country's agroindustrial complex does not mean a mechanical combination of previously-existing ministries under single management with a retention of existing structures and methods of management, planning, financing, capital building and material-technical supply. A fundamentally new organ with a new structure within the central apparatus, new functions and new goals has been created. In USSR Gosagroprom a single system of material-technical supply has been formed on the basis of corresponding subdivisions of abolished ministries, as has a single economic service to carry out planning, financing, bookkeeping and account-keeping for the complex. The financing of capital investments for the APK is concentrated in USSR Gosbank.

USSR Gosagroprom plans the operations of the country's entire agroindustrial complex. With this goal in mind it determines, with the participation of USSR Gosplan, the development of the agroindustrial complexes of union republics, and develops the corresponding indicators for union republics, USSR ministries and departments belonging to the APK system (USSR Ministry of Grain Products, USSR Ministry of Reclamation and Water Resources, USSR Ministry of the Fishing Industry, and USSR State Committee on Forestry) as well as for associations, organizations and enterprises directly subordinate to it. Control figures for APK development approved by the USSR Council of Ministers are sent to councils of ministers of union republics with a single entry (production, procurement,

wage fund, limits of capital investments, planning and contract operations and so on) without a breakdown by branch and to enterprises and organizations of the corresponding USSR ministries and departments included in the APK and subordinate to the union. The councils of ministers of union republics send control figures with a single entry to oblasts, krays and rayons. On the basis of control figures sent to oblasts and rayons, kolkhozes, sovkhozes, industrial and repair enterprises and building and other organizations create development plans for the plan year and for the coming five-year plan. Plans of economic and social development on the basis of control figures are therefore formed from below. On the basis of proposals by union republics as well as by USSR ministries and departments included in the APK, USSR Gosagroprom develops drafts of annual and five-year plans of economic and social development of the country's agroindustrial complex and presents them to USSR Gosplan. These plans are confirmed in the established order by union republics and USSR ministries and departments.

The allocated funds for material-technical resources are distributed by USSR Gosagroprom to union republics and USSR ministries and departments for the enterprises and organizations directly subordinate to them. Thus, the councils of ministers of union republics are the keepers of funds of material-technical resources for the agroindustrial complex, and in the same way USSR Gosagroprom and USSR ministries and departments perform the same function for enterprises and organizations with union subordination.

The system of management, planning and material-technical supply that has been developed achieves the financing of the agroindustrial complex as a single whole without a breakdown for individual branches. Here plans for financing capital investments, for the formation of a basic herd of breeding and working stock, and for growth in norms for the complex's own working capital, operational expenditures and other expenses must be sent to oblasts and rayons as a whole without a breakdown by individual branch as well as by enterprises and organizations with union subordination. The republic or oblast budget will be the source of financing for individual interoblast and interr rayon enterprises and organizations as well as for some measures.

Planning and financing of the agroindustrial complex as a single whole at all levels strengthens the role of the RAPO financial service in efficiently utilizing resources and in influencing APK development. It enables the agroindustrial complex to maneuver resources in the process of fulfilling its plan and to direct them into dealing with key problems, especially that of processing and preserving agricultural products. Financial organs must help with the development of the financial service in oblast and rayon agroindustrial associations.

The creation of a USSR Gosagroprom system requires the uninterrupted financing of all measures foreseen by the plan. For this reason the financing of capital investments and other measures is implemented during the first quarter of 1986 within the circle of ministries in accordance with the confirmed income and expenditure balance for the current year. At the same time it is essential to develop proposals and records to regulate the relationship of the APK at all levels with the budget according to appropriations and payments into the budget. We must also develop a methodology for branch accounting of

expenditures, which is required for the purpose of composing a plan and budget. The formation of an agroprom system will enable us to sharply curtail the volume of bookkeeping and statistical reports.

The new methods for planning and financing the agroindustrial complex require, as noted in a resolution by the CPSU Central Committee and USSR Council of Ministers, "On Further Improving the Management of the Agroindustrial Complex," the restructuring of the apparatus of planning and financial organs and banking institutions, having foreseen the creation of single subdivisions for implementing the functioning of agroindustrial production.

The Main Administration for Financing the Agroindustrial Complex has been created within the central apparatus of the USSR Ministry of Finance. Corresponding subdivisions have been created within the finance ministries of union republics. It is also necessary to create departments for financing the agroindustrial complex in oblasts on the basis of departments for financing agriculture with a transfer to them of some of the workers from other departments.

It is the task of financial organs to implement controls over the transmission of all appropriations for capital investments, over growth in norms for working and other capital in the agroprom and over strictly special-purpose financing of all measures foreseen by the plan of social and economic development.

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AGRO-ECONOMICS AND ORGANIZATION

CPSU SECRETARY ON SCIENCE'S ROLE IN APK DEVELOPMENT

Moscow VESTNIK SELSKOKHOZYAYSTVENNOY NAUKI in Russian No 2, Feb 86 pp 3-8

[Article by V. P. Nikonov, secretary of the CPSU Central Committee: "The Tasks of Agrosience in Intensifying the Agroindustrial Complex"]

[Text] In recent speeches, whether at report-election meetings of communists, at general meetings of workers or at forums of scientists, one hears more and more firmly the words acceleration of scientific-technical progress, discipline and initiative, order and enthusiasm and unity of word and deed.

These words express the striving of the party and people to find approaches to solutions of urgent problems, to work out organizational methods that would mobilize the millions of workers to successfully fulfill the greatest tasks related to the accelerated movement of our country on the path of socio-economic development. In all of this our path is illuminated by the concepts and decisions of the April 1985 and October 1985 plenums of the CPSU Central Committee.

All communists and all the Soviet people are attentively becoming acquainted with the draft of the new edition of the Party Program. This document, while providing a realistic evaluation of the development of Soviet society from the October Revolution to the present, broadly opens up the path for the multifaceted improvement of socialism, the continued movement of the USSR toward the higher goal of social development of the Soviet society--toward communism.

On a practical level time has placed a very complex and difficult task before us relating to the development of the national economy during the 12th Five-Year Plan and to the year 2000.

The General Secretary of the CPSU Central Committee, Comrade M. S. Gorbachev, tirelessly emphasizes in his speeches that to successfully solve extensive problems we must thoroughly comprehend the reality in which we live and psychologically reorient ourselves toward a different pace and method of dealing with tasks that arise, toward the complete use of the economic potential that has already been developed in the country and toward a significant improvement in the quality of both work and the products that are produced. We must orient ourselves toward making the most real breakthroughs already today in all strategic directions of scientific-technical progress.

The main task in the development of the country's national economy has been established--it is essential to increase labor productivity by a factor of 2.3-2.5 and to create a production potential within the next 15 years equivalent to that which had been created during the preceding 68 years of Soviet power. The historic fate of socialism and its effect on the course of events in the entire world depend on this.

The main question now is how and at the expense of what the country can achieve such rapid economic development.

A portion of this cardinal problem was examined at a VASKhNIL [All-Union Academy of Agricultural Sciences imeni V. I. Lenin] session, but it is important to understand that this portion, which has to do with the scientific provisions of the agroindustrial complex, is the foundation for the country's economy as a whole. Today the APK [Agroindustrial Complex] utilizes 48 million workers, over 30 percent of government's fixed production capital and one-third of the country's capital investments. The effect of the agroindustrial complex on the life of the people cannot be compared to anything else. Agriculture alone utilizes 28 percent of the total volume of national income; the agricultural sector produces products for immediate use and raw materials for the processing industry in a sum equivalent to 70 percent of commodity turnover in the country. The role of the agroindustrial complex is very vital and great for other branches of the national economy as well. At a meeting of the party-economic aktiv of Kazakhstan's oblasts and Siberia's and the Ural's oblasts and krays in Tselinograd, M. S. Gorbachev said that this complex has always had and would continue to have the ever-increasing attention of the CPSU Central Committee and the Soviet government.

The agroindustrial complex has been given a very important role in achieving the indicators for the entire national economy as stipulated by the draft of the Basic Directions of Economic and Social Development of the USSR for 1986-1990 and to the Year 2000. The coming 12th Five-Year Plan is the common work of the party and the people on the existing Food Program and on the simultaneous preparation of a base for carrying out promising tasks until the year 2000. The program and central task before us involve increasing grain production. All of the material resources needed for this purpose must be concentrated on solving this goal. The minimal task assigned to agricultural workers for the near future involves producing 250-255 million tons of grain annually during normal years and creating a foundation for the grain industry that will allow farmers to produce no fewer than 200 million tons during years with extreme conditions.

The second priority task which is also singled out from among numerous problems is that of increasing meat production. During the last 3 years the country's kolkhozes and sovkhoses have increased production by 2 million tons as compared to the preceding 2 years of the five-year plan. In 1986-1990 we must increase meat production by 7-7.5 million tons of live weight, which will equal a per capita increase of 15 kilograms. We have not yet been able to make such a sharp jump in meat production during any five-year plan.

The third task is to increase the quantity of feed and especially to improve its quality. As a minimum, we must increase the protein content in feed by 40-45 percent.

For all of these problems we must have special-purpose programs. Soon they will be presented and will become a program of practical operations for the 12th and 13th five-year plans.

We must emphasize once again that the established tasks related to the production of grain, feed, meat, milk and other livestock products are complicated. But the production potential created in agriculture and the production management of over 20,000 of the best kolkhozes and sovkhozes of various regions in the country instill the certainty that these tasks are within our power. This certainty is strengthened by the current dialogue that is being carried out at VASKhNIL sessions. If we generalize the thoughts, ideas and practical approaches to these matters, analyze them attentively and systematize them we will have a powerful means of sharpening most of the currently-existing factors in agricultural production--factors which will determine success. But we must make sure that words do not diverge from deeds. This is mandatory for workers and peasants as well as for scientists. It would be a good thing if there were more practical matters directed at improving life and at more fully satisfying the needs of the people. Without wasting time we must solve a large number of varied problems relating to the development of production forces in the agroindustrial complex. These must be solved rapidly, with good quality and without a loss of time or resources. In connection with this we must remember the warning of V. I. Lenin--in order to avoid gross errors in individual questions we must seriously analyze reality, establish general laws and first solve the fundamental problems before moving to the specific tasks. But the solution to the fundamental problem depends on dealing properly with specific tasks. In life practically everything is interrelated, creating a single, indissoluble complex of problems.

Firstly, this type of single complex of problems includes achieving stability among management cadres of kolkhozes and sovkhozes, scientific institutions and other enterprises belonging to the country's APK. At the same time, it is equally important to develop stable labor collectives which will continue to contribute to the training of people and to their moral and professional development. Then the land, the country's main national treasure, will have a constant, knowledgeable and dependable manager.

Secondly, we must have multi-faceted development of agricultural science, its greater and greater integration with production, and the development and introduction of scientifically-based systems of agricultural management, intensive technologies and intensive agricultural-management methods in general.

Thirdly we have the problem of improving management. This includes the development of a mechanism for interrelations between subdivisions of the agroindustrial complex and the determination of rights and obligations at every level of management. This complex includes constant concern about improving the organization and wages of labor, the introduction of collective

contracts and cost accounting in all production subdivisions of our enterprises.

These are the most important and fundamental questions, and all of agricultural production must develop on their basis.

A few words should be said about the stability and training of management cadres in enterprises. At present there is no order in this matter--a constant turnover of kolkhoz and sovkhos directors is underway. The country loses a great deal as a result.

Among kolkhoz and sovkhos directors 53 percent are young people. Their length of service is no more than 5 years. Of course, there is nothing unusual here--the changeover from one generation to the next is in progress, and young forces are good forces. But the problem is that these directors are constantly changing and that the general training of managers of enterprises is not improving in actual fact. The frequent replacement of directors and specialists in agriculture is nothing less than the reproduction of mismanagement and a multiplicity of "beginnings" without completions and without a return on investments.

The problem is extremely urgent and must be dealt with without delay. To do so we must develop a resolution or status-statement about the director or the kolkhoz chairman, giving him extensive rights to manage the enterprise independently, boldly and without fear of being removed from his position or fired. In achieving his goal the director is absolutely obligated to be responsible for the condition of matters and finances, but everything must be proportionate. Preparing a manager of an enterprise well, giving him rights and outlining his duties and then constantly supporting him in useful initiatives--this is the essence of the question. We must create conditions for growth in acquiring work experience with people and for managing a complex, intensive and genuinely contemporary enterprise.

The problem of stability of labor collectives is directly related to the social-everyday development of our village. Here scientists must renounce incomplete and imprecise knowledge about the social aspects of village life; they must not only imagine but also experience village life in all its depth. But unfortunately the academy has not worked out many of the social problems related to village development.

Let us look at least at the training of cadres by the vocational-technical schools. VASKhNIL is making every effort to support this form of work training of village youth, and this corresponds to the government's point of view. But we cannot but see and react to the fact that some young people, having completed the vocational-technical education, do not remain in the village but move to the city after becoming trained workers. Social measures are needed to counteract this negative process. We must establish the proper interrelations with SPTU [Agricultural Vocational-Technical School] to the advantage of kolkhozes and sovkhos. These types of clarifications to the minutest detail must exist not only in general but also for each region of the country, with a consideration of specific features. It is essential to more urgently pose the questions related to the creation of everyday living

conditions for young people in every kolkhoz and sovkhos and to deal with other questions on which the recruitment of young people for agricultural production depend. The CPSU Central Committee is keeping these questions at the center of attention. Over one-third of all capital investments for agriculture are being directed and will continue to be directed into this area.

There is still another problem related to a single interrelated complex--the closer integration of science and production and the development and introduction of scientifically-based systems of economic management. In the accepted directive, documents on the development of agricultural science the ways to develop a material base and to integrate this science with production have been determined. A resolution by the CPSU Central Committee and USSR Council of Ministers, "On Measures to Further Improve the Effectiveness of Agricultural Science and to Strengthen Its Ties With Production" (1976), notes the ways in which to solve problems which today have been designated as key problems. Among them is the problem of the integration of science and production.

Precise tasks have been formulated for all branches of agriculture:

In the area of farming--to develop winter-hardy, short-stemmed, lodging-resistant varieties of winter wheat with a potential productivity of grain of 80-90 quintals per hectare; to develop varieties of winter rye with a productivity of 50-60 quintals per hectare; to develop average-maturation and rapidly-maturing varieties of spring wheat resistant to drought and lodging and with a potential productivity of 40-60 quintals per hectare;

In the area of plant protection--to carry out extensive research for new, effective and safe methods to protect plants, especially biological methods;

In the area of feed production--to produce 12-20 tons of feed units per hectare on irrigated land.

It must be said that Kommunisticheskiy Mayak Kolkhoz of Kirovskiy Rayon, Stavropol Kray, where Comrade Chukhno was chairman, achieves a yield of 12-14 tons of feed units per hectare. In general Kirovskiy Rayon produces 10.4-10.5 tons of feed units per hectare, and Stavropol Kray as a whole has surpassed the 70 quintal limit. There are no greater indicators next door in either Rostov Oblast or Krasnodar Kray. Such indicators have also not been achieved in other regions of the country, including in the institutes and experimental enterprises of the VASKhNIL system.

We must approach the development of new systems of economic management with extreme seriousness. Above all, we must critically evaluate our operations during the preceding period and draw conclusions regarding why plans remained unfulfilled to a considerable degree. At the VASKhNIL session some speakers discussed the fact that scientific systems for agricultural management must be developed for the oblast level alone. This is a serious error arising out of the worthless principle of "science for science's sake."

Is it possible to develop scientific systems for managing enterprises at such a distance from the land, from field crop rotations and from specific people working in specific fields? VASKhNIL scientists do not have the right to consider as their highest achievement the development of scientific systems simply as methodological instructions or methodological resolutions--shelves and cupboards fall apart as a result of such "labors."

There are no systems in the world which do not touch on specific subjects or on the management of specific operations. We do not have a right to step back from this principle. For this reason with extreme firmness we must insist that a scientific system that is not related to a field, crop rotation or production plot of a kolkhoz or sovkhoz is not a system but material that is of little use to anyone, the place for which is the archive, where hundreds of similar "elaborations" are already stored.

In this matter all APK directors and every scientific collective must take the same position. Scientific systems for managing agriculture must bring real results, and first and foremost they must increase the yield of grain in the country.

How is it possible to develop a scientific farming system without knowing the mechanical and chemical composition of the soil, without having determined how to implement expanded reproduction of soil fertility on each specific plot?

If farming systems have been developed on a national scale, if they exist for Russia, for the Ukraine and finally for Pervomayskiy Rayon, but do not exist for Kolkhoz imeni Lenin or for the fifth brigade of this kolkhoz or for the tenth field of the crop rotation then this means that the farming system does not exist at all. The question is not an empty one. With such an approach the basic methodological principle of our knowledge--from concrete contemplation to abstract thought, and then to the practical and action--is violated.

The success of the entire country and of all kolkhozes and sovkhozes in assimilating intensive technologies is closely tied to the activities of agricultural science. At the current stage intensive technology is, first and foremost, an individual, his qualifications and his skill and experience in managing the entire diversity of existing factors. It has been emphasized more than once that farming cannot produce 35-40 quintals of grain per hectare if somewhere something has not been carried out, has been eliminated from the plant's system of nourishment or protection or if poor or non-regionalized seed is used for seeding.

In 1986 it is planned to cultivate 31 million hectares of grains according to intensive technologies, and by the end of the 12th Five-Year Plan--60-63 million hectares. For this we must very seriously train and retrain people and study ourselves. Otherwise there is no point in depending on the success of intensive technologies. Some results from last year speak of this. In the Siberian division of VASKhNIL (chairman--VASKhNIL academician P. L. Goncharov) a negative attitude developed towards these technologies. In the division's zone 4.5 million hectares of spring wheat were cultivated according to intensive technologies, but only 1 percent of crops were treated against

disease despite the fact that the supplies of the newest fungicides were sufficient for 1.8 million hectares.

Serious measures must be taken to teach people progressive methods for cultivating all agricultural crops, to move away from the position of observer and, as is required of Soviet scientists, to become leaders in helping specialists and machine operators to assimilate a new and complex matter but a matter that will result in large harvests of grains and other crops and in a considerable improvement in product quality.

The harvest that has been produced on the area cultivated according to intensive technology in Siberia is lower than planned. We proceeded with the firm assurance that on Siberian fallow the harvest would be larger. At the beginning of the sowing period there were 177 millimeters of moisture reserves in the 1-meter soil layer; during the vegetative period there were 113 millimeters of precipitation. But during the period of early grain maturation there was torrential rainfall which forced 60 percent of the grains in Altay Kray and Novosibirsk, Omsk and Kurgan oblasts, and almost all crops in Kemerovo Oblast to lodge.

All of the essential regulators of plant growth were also supplied on schedule and in full, but only 3 percent of the area was treated for the lodging of grains.

No one has the right to discredit the concept of "intensive technology," and this must be comprehended in all its completeness.

We have had successes in the area of breeding crops such as corn, sorghum, winter durum wheat and several others. But in general we cannot yet call the work of breeding centers good. Over a period of 10 years 1,460 varieties have been submitted for variety testing and 454 have been regionalized--not a small number--but primary seed farming has been organized for only 36 varieties. In many oblasts a type of "competition" has developed--who can regionalize more new varieties--but this brings nothing more than harm. It is time for VASKhNIL to take this important division of the farming system into its own hands.

One of the main directions for the development of farming systems involves the machine system. At the VASKhNIL session this question was discussed by the president of the USSR Academy of Sciences, Academician A. P. Aleksandrov. With his innate ability to analytically examine any problem, he discussed machine systems and internal combustion engines.

As we know, the system of a machine predetermines all technologies and all systems of farming management. This problem was dealt with adequately, and now the system has 2,000 items among its machines for field-crop work.

But there are negative aspects to this problem. For example, what is happening to internal combustion engines? We had a DT-54 tractor with a good motor. Then three tractors of the same class--the DT-74, DT-75 and T-4--appeared with three different motors. Standardization among them does not exceed 15 percent.

What happened to the powerful T-150K and K-700 tractors equipped with a V-type engine? If wide tires are put on a K-700 then the tractor operator will not have a field of vision, but narrow tires compact the soil excessively and contribute to the development of erosion processes.

The great scientist Vasilii Prokhorovich Goryachkin lived here once. He was called the founder of farming mechanics. Every student in an agricultural higher educational institution is familiar with Goryachkin's plow theory.

Modern powerful tractors with available plows do not fully turn the furrow during plowing, but put it "on its side." This results in the dessication of the soil and makes subsequent quality soil cultivation considerably more difficult. Unfortunately, scientists still have not proposed anything new. We must keep in mind that damage during plowing is practically irreparable. Who was bold enough to reject Goryachkin's plow theory and what did he propose in its stead? No one can have a supercilious attitude to problems like this one because this results in great expenditures and in production without a return.

We must wish scientists great success in the development of agricultural science and in the real integration of this science with production. We should always remember the words of the General Secretary of the CPSU Central Committee, M. S. Gorbachev, that agricultural intensification begins first and foremost with the intensification of science.

Soviet agricultural science developed and is developing on the rich scientific foundation of great scientists such as Sechenov and Pavlov, Vavilov and Vilyams, Kostychev and Dokuchayev, Pryanishnikov and Timiryazev, and we must be worthy of these names.

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AGRO-ECONOMICS AND ORGANIZATION

KRASNOYARSK, ROSTOV CONFERENCES VIEW APK PROBLEMS

Moscow EKONOMICHESKAYA GAZETA in Russian No 7, Feb 86 pp 15-16

[Article by F. Bogomolov, N. Dudorov, M. Ovdiyenko and V. Shloma: "Increasing Return on Accumulated Potential"]

[Excerpts] As previously reported, on 28-29 January a zonal conference of workers of the agroindustrial complex from all regions of the RSFSR took place in Krasnoyarsk and Rostov-on-Don. These conferences were devoted to questions of strengthening organizational work as concerns the introduction of cost accounting, collective contracts and intensive technology in farming and livestock raising. Participating in them were party, soviet and management workers, scientists and production leaders.

In Krasnoyarsk the conference was opened by V. P. Nikonov, secretary of the CPSU Central Committee. A speech was presented by the first deputy chairman of RSFSR Gosagroprom [State Agroindustrial Committee], V. V. Nikitin.

In Rostov-on-Don the conference was opened by the first deputy director of the CPSU Central Committee's Department of Agriculture and the Food Industry, I. I. Skiba. A speech was presented by the first deputy chairman of the RSFSR Council of Ministers and chairman of Gosagroprom, L. B. Yerminev.

Participating in the work of the conference were the first secretary of the Krasnoyarsk Oblast CPSU Committee, P. S. Fedirko, and the first secretary of the Rostov Oblast CPSU Committee, B. M. Volodin.

Krasnoyarsk

What are the ways to increase the effectiveness of agricultural production? How can we achieve a sharp rise in the productivity of fields and farms in kolkhozes and sovkhozes? Where are the reserves for decreasing expenditures and for increasing return on the resources that are invested in the branches

of the agroindustrial complex? These were the questions that were at the center of attention of meeting participants in the city of Yenisey.

The region under discussion occupies a large area stretching from the Urals to the Pacific Ocean. It includes 28 autonomous republics, krais and oblasts. In accordance with the indicated program of accelerated development of production forces in the eastern region large territorial production complexes and industrial networks are being formed, gigantic electrical stations have been built and new structures of the forest, wood-processing, mining and other branches of industry are being introduced. With the introduction of BAM [Baykal-Amur Trunkline] possibilities have opened up for the overall assimilation of the richest raw-materials resources.

With a growth in population in the aforementioned regions the need for food products increases. To satisfy these needs it is essential to achieve rapid growth of production and procurement of all types of agricultural products, and first and foremost by means of local production. There is only one path to this--systematic intensification of the branches of agriculture, the introduction of leading methods of production organization and of effective forms of material and moral stimulation, and the improvement of the economic mechanism and management at all levels.

Once You Have Invested the Resources, Return Them a Hundredfold

With each year investments by the government into the agroindustrial sector of the Urals, Siberia and Far East regions increase. However, the return on these resources still remains low. In many enterprises crop yield has not increased for a long time. Farm productivity is low. The production of farm and livestock products is expensive. The return on fixed and working capital is not high.

It was noted that many oblasts did not fulfill the 5-year procurement plan for a whole series of farm and livestock products. In some regions a decrease in production has even been tolerated. But after all, in the enterprises of Siberia and the Far East the energy supply available per worker is higher than on the average throughout the RSFSR. This means that the resources that are invested do not pay for themselves. It is no accident that the output-capital ratio decreased by 25 percent during the past 5 years. In Altay Krai, for example, agricultural production output for recent years has not increased although investments increased by many millions of rubles. How can we speak of any profitability here?

There has long been talk about introducing scientific systems of farming in every enterprise. What kind of system is it, it was noted at the conference, if grain production decreases? We can judge the effectiveness of a particular system not by the area in fallow and by other elements but by end results, i.e. by the output of grain and other products per hectare. This is precisely the way in which the conference's participants posed the question.

Or let us look at the system of seed farming. Enormous resources have been directed into strengthening its base. But up until now many enterprises of Siberia and the Far East have been putting large areas into unconditioned seed

and seed of low reproductions. This results in a sharp decrease in productivity and does not enable us to effectively utilize fertilizers, reclaimed lands and other factors. Yet there are many kolkhozes and sovkhoses in every zone which achieve high production indicators. This was convincingly attested to by the directors and specialists of leading enterprises.

Why Doesn't the Contract Come Into Action?

Conference participants noted that the introduction of intensive technologies must be examined as they integrally relate to the introduction of cost accounting and collective contracts. Unfortunately, in many kolkhozes and sovkhoses a considerable amount of formalism is tolerated in these matters. In practice the principle of independence during the formation of such subdivisions is not always adhered to. Sometimes collectives are too numerous and become unmanageable. Errors are tolerated in planning norms for production output and in calculating estimates for it. This was convincingly discussed by the secretary of the Omsk Oblast CPSU Committee, A. Leontyev, by the chairman of the Perm Agroprom, R. Lyutikov, by the chairman of the Slavgorod RAPO of Altay Kray, A. Pronin, and by others.

A totally different type of system is used to introduce progressive forms of labor organization in the aforementioned Sovkhoz imeni 60-Letiya SSSR. Here at the meeting of the collective a determination is made, with a consideration of norms, of the total number and professional composition of contract subdivisions, with a designation of individuals desirous of working in the new manner. The meeting does not set the goal of "Everyone for contracts." Those who express doubts are given the opportunity to think about it and make a final decision later. After this the specific preparation of the collective begins.

Here is the opinion of the senior zootechnologist of Kamenskiy Sovkhoz, Sverdlov Oblast, G. Ustinova:

"The flow-shop system for maintaining the dairy herd, the two-shift work regimen, and the check system of accounts with other subdivisions of our enterprise--these are the essential conditions for effective cost accounting and collective contracts."

Conference participants also discussed the necessity to further improve the provision of incentives for directors and specialists of enterprises and to coordinate their wages more closely to production indicators. Here is what was noted in this regard in a speech by the director of the leading Nazarovskiy Sovkhoz of Krasnoyarsk Kray, Hero of Socialist Labor A. Veprev:

"Today with the existing system of bonuses the directors and specialists of enterprises which have a very high level of production and income are put into a disadvantageous position. For them a limit is established beyond which the size of the bonus does not change no matter how the indicator improves. I feel that this must be corrected."

Serious complaints were lodged against scientists-agrarians in regard to both the development and introduction of intensive technologies in farming and

livestock raising and to the attitude toward normative materials. The members of the conference showed fervent support in connection with this for the speech of the deputy directory of the Siberian NII [Scientific Research Institute] of Agricultural Economics and doctor of economic sciences, K. Pankova. In part she stated:

"Scientific collectives must make the transition to cost accounting. The labor of scientists must be reimbursed according to the results of their work."

Expenditures and Results

In places where the introduction of intensive technology was approached seriously, with knowledge of the matter, where concern was shown for obtaining supplies of the necessary resources--this is where return is high. As a rule, the productivity of grains and other crops increases sharply on such areas. However, it was noted at the conference that in this matter we find many cases of elementary lack of knowledge and a lack of desire on the part of directors and specialists to utilize all means and possibilities for growth of productivity on fields and farms. As a result, additional expenditures, of which there are up to 150-180 rubles per hectare, are not reimbursed by production. Grain yield must be increased by no fewer than 12 quintals per hectare, whereas in Siberia last year the increase resulting from intensive technology was only 5 quintals. Here we cannot forget that with intensive technology crops are placed primarily on fallow. This means that effectiveness should be even higher.

Siberian scientists are not distinguished by persistent work to introduce intensive technologies. For example, the Altay NII of Agriculture is doing nothing in this regard. Last year on its fields only 16 quintals of low-quality grains were produced per hectare after fallow. Chemical agents were not fully utilized here and crops were infected with rust. Last year profitability of grain production in Siberian enterprises dropped considerably. Great supplementary resources were expended but measures on intensive technologies were not carried out within a complex and did not achieve the necessary return. This applies not only to farming but to livestock raising as well, where new progressive forms of labor and production organization are forging a path for themselves much more slowly.

Yet there are many examples of the high level of effectiveness of the new technology. Thus, in Sovkhoz-Technical School imeni V. I. Lenin and N. K. Krupskaya of Shushenskiy Rayon feed root crops--beets, turnips and Swedish turnips--were cultivated according to intensive technology. Each hectare yielded almost 600 quintals, which enabled the enterprise to procure over 3 tons of this valuable feed per cow. All basic processes for crop cultivation have been mechanized, which provided the opportunity to decrease labor and resource expenditures to a minimum.

In Perm Oblast leading enterprises, utilizing intensive technology, are collecting over 30 quintals of grain per hectare, which is 8 quintals more than with regular technology in the same enterprises. On the teaching farm of the Perm SKhI [Agricultural Institute] the productivity of barley as a result

of this has doubled and comprises 45 quintals per hectare. At the conference many examples were cited of the high level of effectiveness of intensive technology for both the cultivation of various crops and in livestock raising.

Unfortunately, noted the chairman of the Perm Agroprom, R. Lyutikov, the introduction of new technologies and collective contracts is sometimes hindered by specialists. We must change the approach to wages for directors and specialists of enterprises, he emphasized. Wages must depend on end results. USSR Agroprom must make the corresponding recommendations on this question.

Conference participants indicated specific measures for the universal transition of kolkhoz and sovkhoz collectives to cost accounting in the course of the coming 2 years. It is also planned to significantly expand the use of industrial technology in farming and livestock raising.

Rostov-on-Don

The report from the Rostov zonal conference must begin with some words from the speech of the senior economist of Konstantinovskiy Sovkhoz of Penza Oblast, M. Reznikova:

"We frequently talk about the importance of and need for collective contracts in enterprises. It is time," she emphasized, "to move from talk to action, to introduce cost accounting and collective contracts in production. After all, experience in this matter has been accumulated by many enterprises."

Yes, it is true that a number of kolkhozes and sovkhozes have accumulated solid experience in the operation of intraenterprise subdivisions under conditions of collective contracts. Life and practical experience have convincingly shown that as a rule the productivity of agricultural crops and animals is higher and the expenditure of manpower and cost of production are considerably lower in contract collectives.

Mentioned at the conference was the brigade headed by V. Kozakov from Druzhba Breeding Plant of Kuybyshev Oblast. It is involved in the cultivation of grains and other crops with complete crop rotation. For many years the brigade has been a school for the introduction of collective contracts and in its work it demonstrates its skill. Despite complicated weather conditions found in the steppe Tranvolga region, the collective has managed to solve the most difficult problem on a practical level--how to achieve not only large, but stable, harvests. Drought and dry winds are common phenomena here, and the grain yield for the brigade has not been lower than 21 quintals per hectare for many years.

Last year, utilizing intensive technology, an average of 38 quintals of grain were produced here. Production per machine operator equalled 2,500 quintals of wheat, primarily of strong varieties. Labor expenditures per quintal of grain comprised only 17 minutes and cost--5 rubles, as compared to 6.7 rubles in the enterprise as a whole.

Production per brigade member equalled 25,361 rubles. It is also important that the growth pace of labor productivity here exceeds growth in wages by a factor of 1.5.

Here is another example. The link of I. Rublikov from Horse Plant imeni Kirov of Tselinskiy Rayon, Rostov Oblast, last year produced an average of 55.7 quintals of grain from a large area. And this was done under the conditions of Rostov Oblast, on dry farming land! The cost of a quintal of wheat was even lower than in the brigade from Kuybyshev Oblast--3 rubles 93 kopecks. Production of all products per link member exceeded 60,000 rubles.

But economic effectiveness is not the only important thing. There is another no less important aspect. As a rule, labor and technological discipline, mutual aid and joint responsibility for the end result are usually greater in contract collectives, and this trains people in the spirit of collectives.

Other examples were given attesting to the high degree of effectiveness of production in subdivisions operating under conditions of collective contracts. Involuntarily the question arises: Why is it that this progressive form of labor organization is not taking hold in a number of enterprises?

What are the Reasons?

One of the reasons is the lack of desire and sometimes the lack of ability of directors and specialists to implement collective contracts in farming and livestock raising. This was discussed, in part, by K. Tozliyan, chairman of Domodedovskoye Agroindustrial Association of Moscow Oblast. He noted that there are certain difficulties in the introduction of collective contracts in dairy farming. If on a particular farm the productivity of cows is not lower than the rayon average, some directors usually say that things are going fairly well even without collective contracts. But when the conversation turns to livestock farmers in low-profit or unprofitable farms, there is a menacing warning: "What do you mean, how can we talk about any sort of contracts? People are leaving farms as it is." We must get rid of such directors.

In order to deal with the introduction of cost accounting and collective contracts more objectively, rayons have created base kolkhozes and sovkhoses which have organized the mechanism of intraenterprise accounts and contracts quite well. In places where the selection of such enterprises proceeded in a business-like manner they have become real schools for directors and specialists.

A. Vishnyakov, chairman of Zavety Ilichy Kolkhoz of Lipetsk Oblast, discussed the work experience of one of these base enterprises in Lipetsk Oblast in his speech. Here the training of cadres has been organized properly, and "cost-accounting days" are held, contributing to increasing the economic thought of directors and specialists.

Nevertheless, as noted at the conference, there are many regions in which base enterprises have simply been designated but where no work is going on. This is why they have not become centers for practical study of the principles of

cost accounting and collective contracts. It is no accident that in these rayons progressive forms of organization and incentives are making inroads with difficulty. Collective contracts in livestock raising are being introduced slowly in Komi ASSR and Vologda, Novgorod, Ivanovo and Kalinin oblasts, although it is in these regions that we have the acutest need for contracts in view of the existing manpower problems. Some of the aforementioned oblasts were also criticized at the zonal conference in Leningrad. However, the necessary changes have not been made.

Formalism probably is of greatest detriment to active change. In the chase after quantity the quality aspect of work is overlooked. Contract collectives are created without an underlying preparation and with a violation of the principle of independence. The size of the collective is not always well-founded. Often numerous evaluation indicators are introduced and the order for wage payments is made more complicated.

Thus, in Smolensk Oblast there have been numerous cases of formal assignments of cost accounting tasks to contract collectives. Here practically no bonuses were paid out for economy, which naturally does not provide incentives for workers to hold down costs.

Under conditions of collective contracts in a number of kolkhozes and sovkhoses a check form of expenditure controls is utilized. It is an important part of cost accounting within the enterprise and an instrument of effective control on the part of directors of collectives over the development of expenditures for production output. This was discussed in detail by the director of Stepnoy Sovkhoz of the Kalmyk ASSR, I. Litvinov, who spoke at the conference. Cost accounting and an accounting for all expenditures are skilfully organized in the enterprise.

Unfortunately, the check form of control is utilized only in 7 percent of enterprises. There is no hurry to introduce it in Voronezh, Pskov, Smolensk, Yaroslavl and other oblasts. It is the task of agroindustrial committees and associations to more fully utilize cost accounting and collective contracts to strengthen the economies of kolkhozes and sovkhoses, to thoroughly analyze from all aspects and critically evaluate the activities of cost accounting contract collectives and to take immediate measures to improve their work.

Assigning Responsible Tasks to Innovators

The experience of leading kolkhozes and sovkhoses convincingly attests to the fact that success accompanies those enterprises in which directors and specialists and party organizations approach the introduction of all that is progressive and in the vanguard with creativity and with great responsibility and in which the heads of brigades and links are experienced, highly-trained and enthusiastic people. Practical work is carried out not simply by machine operators and drivers but by genuine grain farmers and masters of their craft.

Problems that arise in the introduction of cost accounting, collective contracts and intensive technology attest not to the fact that this matter is too complicated but usually to the inadequate activeness of directors and specialists and sometimes to their inertness and desire to create a peaceful

life for themselves. The speakers at the conference emphasized over and over that today the simple executor is no longer adequate although he is sometimes in short supply. Under the new conditions the significance of the qualities of a manager, such as creative initiative, enterprise, boldness and readiness to take responsibility upon himself grow immeasurably.

Within the system of measures directed at the intensification of farming and livestock raising as well as of other branches of the agroindustrial complex an exclusively large role is played by organizational-economic factors. This means that we must raise the level of economic thought of cadres, their creative activeness and their feeling of responsibility for the end result.

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AGRO-ECONOMICS AND ORGANIZATION

SUPPORT FOR DEVELOPMENT OF PRIVATE PLOTS IN SOCIALIST ECONOMY

Moscow EKONOMICHESKAYA GAZETA in Russian No 9, Feb 86 p 14

[Article by G. Shmelev, doctor of economic sciences: "On the Social Essence of Personal Subsidiary Activities [lichnoye podsobnoye khozyaystvo]"]

[Text] As a specific form of socialist agricultural production, the personal subsidiary activities supplementing large scale socialized production, arose first in our country in the socialist transformation of agriculture. This was more than a half century ago, but there are still incorrect judgements about the social essence of such activities.

A proper answer to this question is of major theoretical and practical importance. It cannot be forgotten that personal subsidiary activities are a beloved theme of bourgeois propaganda. Western economists tear them from the general system of agrarian relations of socialism and contrast them, as a supposed private [chastniy] sector, to socialized agricultural.

A definition of the social nature of personal subsidiary activities was preceded by detailed research on their place in socialism's system of production relations, their objective and subjective characteristics and operating goals.

Long ago, Soviet science convincingly proved that these activities are, by nature, socialist. Why? First of all, socialized production and personal subsidiary activities are combined into a unity of operations. The masters of personal subsidiary activities are workers in socialist production -- kolkhoz farmers, workers and employees for whom labor at public farms is the basic occupation. Hired labor is not and cannot be used in private activities. They are based on the personal labor of citizens and their family members. Secondly, private activities use land which is the property of the state and in the possession of state and cooperative socialist enterprises and organizations. Private activities are linked by broad production ties to socialized production, are dependent upon it and together with it, participate in the creation of the country's food stocks. In one of his articles, writing about personal subsidiary activities, M. S. Gorbachev stated: "Our party considers them as an element of socialist agriculture at its contemporary stage..."

The economic role of personal subsidiary activities in our country is still significant. In 1984 they accounted for 28-29 percent of total meat, milk and egg production, 24 percent of the wool, 61 percent of the honey, 58 percent of the potatoes, 30 percent of the vegetables and 59 percent of fruit and berries. The total share of these activities in gross agricultural output was about 25 percent. Bourgeois economists often refer to data on personal subsidiary activities' total land area to base their claims of such activities' high economic efficiency. This conclusion, based on a comparison of land and output is unscientific. For example, they knowingly ignore the fact that the masters of personal subsidiary activities use large areas of hayfields and pastures, somewhat exceeding the size of farmstead activities and receive, on a subsidized basis, feed produced at kolkhozes and sovkhoses. Kolkhozes and sovkhoses also sell the public large numbers of young livestock and poultry and assistance with seeds and planting material. For example, in 1984 the public was sold about 16 million piglets and 664 million young poultry. Kolkhoz and sovkhos equipment is used to till farmstead plots and the public is given transportation services.

It must also be kept in mind that the development of personal activities makes it possible to utilize labor and resources which, in principle, are impossible to use in kolkhoz and sovkhos public production. This creates the possibility for definite economies of labor, material and financial resources in sectors in the agro-industrial complex. In retail trade planning it is also taken into account that some of the public's demand for foodstuffs is met through farmstead plots and the kolkhoz market.

The mutual supplementation of public activities at kolkhozes and sovkhoses and personal activities, their direct and mediated ties and the mutual factors influencing the subject of activities distinguish the personal subsidiary activities from the private farm [chastnoye khozyaystvo] of the peasant and individual farmer and define it as a specific form of personal property under socialism. Personal subsidiary activities do not form an independent socio-economic structure [uklad], are not closed activities, but are an organic component of the socialist agrarian economy.

This makes it all the more strange that in our press there are still descriptions of the personal subsidiary activities as a residue of small production, having a private character. We cite, for example, a statement which M. Rutkevich, correspondent member of the USSR Academy of sciences, made recently in a prestigious journal: "...under contemporary conditions, personal subsidiary activities are a very specific residual form of small production, which have an inherent private character and in which the output produced acquires the commodity form.

The author here is not only ignoring the conclusions of economic science, but is also using a clearly unscientific method of analysis. He derives the essence of production and production relations from the features of distribution and the circulation of output from this production. It is well known that the commodity form of a product cannot be determined from the characteristics of production relations.

The commodity form is possessed by products created at small peasant or handicraft worker activities and at capitalist enterprises as well as the products of state and cooperative enterprises. Following the author's logic, all these forms of social production, with profoundly different production relations, are transformed into something which is socially formless, which, however, has "an inherently private character". As far as this theory is concerned, one can only again state that it is very strange that it appears in the press.

Practical work in recent years is evidence of the deepening of integrated ties between public activities at kolkhozes and sovkhoses and citizens' personal subsidiary activities.

Several legislative measures have been taken to assist citizens in their personal activities, to intensify their reproduction ties with kolkhoz and sovkhos production. Thus, sovkhoses and kolkhozes are now signing contracts with the public to raise and purchase livestock and poultry and surplus milk.

The public has obtained the possibility to sign contracts for keeping more livestock than allowed by established norms. Agricultural enterprises have been authorized to count the contracted livestock, poultry and milk deliveries they receive from the public towards the fulfillment of the state plan for the purchase of agricultural products. These statutes [polozheniye] are essentially evidence of the equation of labor on personal activities with labor on public activities as far as their social significance is concerned.

In 1984 kolkhozes and sovkhoses purchased 5 million tons of milk through contracts with the public, this was 3.6 fold more than in 1981. In a number of places the measures directed towards the cooperation and integration of personal activities with socialized production has made it possible to increase their contribution to the food resources of trade and the processing industry. Thus, in the Baltic region the state and cooperatives are sold 70-80 percent of all milk produced by personal subsidiary activities.

In 1984 kolkhozes and sovkhoses sold the public 7.6 million head of young cattle, 4.8 million pigs and about 4.4 million sheep and goats for feeding, raising and reproduction.

A large amount of the output from farmstead animal and plant raising is purchased by consumer cooperatives. The CPSU Central Committee and the USSR Council of Ministers recently passed the decree: "On Measures for the Further Development of Consumer Cooperatives" which approved, as a minimum, the proposal of Tsentrosoyuz [Central Council of Consumer Cooperatives] and union republic Councils of Ministers to increase consumer cooperatives' purchases of meat and meat products from the public during the 12th Five-Year Plan by 22 percent, that of potatoes by 15 percent, vegetables by 35 percent, fruit by 55 percent and vegetable oil by 27 percent.

Of course, a lot of commercial output from personal subsidiary activities is sold at kolkhoz markets. In 1984 such turnover reached 8.5 million rubles. Kolkhoz markets' share in the sales of a compared set of items was 4.5 percent for all types of trade when expressed in equal prices, and 9.9 percent in

actual prices. This means that kolkhoz trade prices were more than two fold higher than state retail prices.

As is known, the higher levels of retail prices have their explanation and cannot be an argument for excluding personal activities from the socialist agricultural system. Without a doubt, based on existing laws there should be decisive curtailment of all attempts to transform personal activities into sources of unearned income, that is, into private activities. The overwhelming mass of kolkhoz and sovkhoz families have nothing in common with these phenomena. Taking into account the incomes from their personal activities and from kolkhoz markets, their total incomes are no larger than those of other social groups in our society. The source of the main share of these incomes is labor on public fields and farms. It should also be kept in mind that as the main share of output from personal subsidiary activities is consumed by the owners themselves, the share of these activities in commercial agricultural output is only 11 percent.

The draft to the new edition of the CPSU Program states that in order to supplement the country's food stocks use will be made of citizens subsidiary activities and collective gardens and orchards. There will also be further development of consumer cooperation to organize purchases from the public. Kolkhoz markets will also retain their importance. The draft of the Basic Directions stressed the need to improve the organization of purchasing surplus agricultural products from the public, the development of kolkhoz trade and improvements in the work of kolkhoz markets.

These points are based upon the acknowledgement of the socialist character of personal subsidiary activities and the necessity of their functioning within the framework of the agro-industrial complex.

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AGRO-ECONOMICS AND ORGANIZATION

PROGRESS, PROBLEMS OF ECONOMIC EXPERIMENT IN OREL OBLAST

Moscow IZVESTIYA in Russian 20 Feb 86 p 2

[Article by V. Kulagin, Glazunovskiy Rayon, Orel Oblast: "The Authority of the Contract"]

[Text] In the early and late parts of 1983 the articles "Doveriye" [Trust] and "Stanovleniye" [Creation] (IZVESTIYA 138/139 and 292/293) reported on an economic experiment conducted in Glazunovskiy Rayon of the Orel Non-Chernozem Region related to the transition to cost accounting and collective contracts by all rayon kolkhozes and sovkhozes simultaneously. Five years have passed since the beginning of this complex change in the village.

We remember that at the very beginning of the experiment the directors and specialists of enterprises, link leaders and machine operators were pleased when the feeling of being completely in charge, of greater reaction to the slightest divergences from the norm or from a just distribution of the good according to labor, of responsibility for the whole and not just for one's own tractor or combine replaced ordinariness and monotony. Supposedly these were the same people as before, but it was as if they had made a transition from one state to another. "They have begun to respect themselves," I used to hear often in those days.

At that time the contract was talked about as a real force, capable of moving and restructuring agricultural management from top to bottom on a cost-accounting basis. This type of restructuring has occurred in the rayon. But then how are we to explain the overexpenditure of fuel today? The additions to plans and accounts? Other production expenditures?

"A little bit of everything contributes to this," says one of the most fervent supporters of collective contracts, the director of the planning-economic service of RAPO [Rayon Agroindustrial Association], L. Semenova. "Let's be honest, cost accounting still has not penetrated deep into the consciousness of every agricultural director and farmer."

In today's form, imperfect in its own way, cost accounting does not eliminate contradictions in the lives of independent links. Time is needed to really confirm contracts.

Yes, but how much time? People do not want to delay. They have reached for the reality of plans, for the objective nature of evaluations, for the honestly-earned rubles and for the truth of the fact.

As for Glazunovskiy Rayon, here are the facts. Economic indicators improved here during the years in which collective contracts and cost accounting have been in effect. Let us present at least the main indicators (we are comparing 1981--the beginning of the introduction of contracts and 1985--the end of the 11th Five-Year Plan). Grain procurement increased almost fourfold, meat--from 1,811 to 2,318 tons, milk--from 8,827 to 11,527 tons annually, and vegetables--over fourfold.

The average productivity of grains increased from 10.4 to 18 quintals per hectare, of perennial grasses (hay)--from 13.7 to 25.6 quintals per hectare, of vegetables--from 46 to 196 quintals per hectare, of corn for green feed--from 155 to 268 quintals per hectare, and of sugar beets--from 155 to 200 quintals per hectare.

The production of all types of products has increased; nevertheless, the rayon's enterprises have remained in debt to the government as concerns the sale of grain, potatoes, vegetables, milk and meat. The five-year plan was overfulfilled basically by means of the sale of sugar beets and wool.

Workers were not able to compensate for the omissions of the first 2 years, when they were not successful in obtaining a return on the economic restructuring that had begun in kolkhozes and sovkhoses. A return was not experienced until the third year after the strength of collective contracts was felt. Now, having completed the five-year plan, farmers have been able to see more clearly why not all economic and organizational measures operated as planned.

The discussion on this subject with Nikolay Zabolotskiy and Nikolay Yeremin, link leaders in Kolkhoz imeni Zhdanov, turned out to be frank.

"We are rebuked for excessive independence," says N. Zabolotskiy. "But if we approach the essence of the problem, it is precisely this independence that we have in short supply. The kolkhoz administration adheres to no more than two-thirds of the contractual agreement. We of course know that in the kolkhoz there are unrewarding, low-paying jobs which have not been foreseen by the contract. We approach this with understanding. We assign people and equipment as necessity dictates. But tell me, why meddle without need in our affairs to the detriment of the end result? Why urge us on relentlessly? Why give us directives that are not always completely thought out? Fuel will have to be overconsumed to carry out this additional work."

The link leaders brought up many examples of this. But they were especially disturbed by a fact which N. Yeremin was forced to share (the link leaders insisted on this) with the delegates of the rayon party conference. At the

very beginning of the past harvest period there was frequent rainfall. The winter wheat was a lovely sight, especially on fallow fields. Link leaders hoped to harvest an average of 40 quintals per hectare, but harvested one-fourth less.

"We intended to take the combines into the fields a few days after the rains. But we received a command from the rayon--cut down the wheat. We told them that the land was clean and that it would be more advantageous to employ direct combining. No one even wanted to listen to us," recalls N. Yeremin. "While the rayon administration looked over our shoulder, we mowed down about 100 hectares throughout the kolkhoz. The next day, when our rayon comrades left the fields, we allowed all combines to carry out direct combining. If we had continued operating according to orders, we would have been left without grain. Is this independence?"

For me this was also unexpected to a certain degree. How could it be explained? Perhaps by the departure of the first secretary of the party rayon committee, T. Konovalova (she is now the secretary of the Orel Oblast executive committee)? She always took the opinion of specialists, and especially of link leaders, into consideration and provided incentives for their initiative in many ways. Evidently the rayon administration of village economies had moved away from these very important principles.

The rayon executive committee and the RAPO, as I noted, are striving to operate according to the old methods. The link leader often must take on the role of executor of someone's orders. But he is supposed to be, first and foremost, the organizer of work, as clearly indicated in the contract. Unfortunately, because of these contract violations the contract link wastes many rubles.

For example, last year N. Yeremin's link had a contract wage fund of about 50,000 rubles, but the link received about 30,000. Advances in the course of the year to link members equalled 16,206 rubles. According to end results of work the link received 76 kopecks per ruble of advances, or 12,316 rubles. An additional 1,192 rubles earned on the side must be added to this. The link was forced to spend 10,000 rubles to employ others to perform the work that it could not carry out itself--taking manure into the fields, stacking straw and harvesting a portion of feed crops.

Cost accounting is specific and uncompromising. Additions are ruled out. If you have not been able to perform the work yourself, use you link's resources to pay your neighbor to do it.

"Still, if there had been less reassigning us to other jobs and if equipment had not let us down so often," concludes N. Yeremin, "the results would have been more better for the link and thus for the enterprise."

Another problem which arose recently is also important. According to a decision by the oblast agroindustrial commission, contract links in the rayon will specialize in feed production and will receive a privileged status. But we are still unclear about how this will work in practical terms.

Link leaders fear that with this there will be an impingement upon one of the bases of contract collectives--complete crop rotations, which will simply be violated with the creation of independent feed-producing links. Once again the land will not have one single manager. The optimal variant is being sought in the rayon.

"We spent some time with machine operators from Yeremin's link in Kolkhoz imeni 20 Partiyyny Syezd of Kostroma Oblast," says the chairman of Kolkhoz imeni Zhdanov, I. Ilich. "During the period of feed procurement, feed-production groups are created out of farming links such as ours. The source of wages is the link's fund--it is as if one link attracts a portion of the workers from another for a time. Things do not turn out badly. We feel that this system could be used by our enterprises too."

However, a unanimous opinion still has not been reached on this. There are many similar questions requiring effective and skilled decisions. We understand that the Orel region is not the Kostroma region--the conditions differ.

This is not just the beginning of the new year--it is also the beginning of the five-year plan. However, new contracts have not yet been concluded with many links. New estimates, which will naturally reflect the results of work during the past five-year plan, do not yet exist. Every machine operator must clearly understand the reasons for and essence of all changes.

After all, norms and estimates are not questions simply of arithmetic; they involve a greater economy, which touches on the interest of people. An efficient, knowledgeable solution today is completely within the competency of a single agroindustrial service. It is also important that the precision of economic ties and estimates be finalized in contractual agreements in a timely manner so that no one has any doubts either at the beginning or at the end of the year.

Another reason why we cannot take our time is that beginning this year the Glazunov experiment is entering a qualitatively new stage--all of the rayon's enterprises are moving to complete self-support.

"We must say frankly that in many ways we are not accustomed to the economic situation," says the chairman of the RAPO council, V. Teplov, not concealing his concern. "Judge for yourselves. At the beginning of the year the accounts of enterprises contained slightly more than 300,000 rubles, whereas over half a million is required to pay monthly wages. Money comes in in January primarily from the sale of milk. With the supplement--about 110 percent of the procurement price--it is possible to save about 200,000 rubles per month. This is why the directors of enterprises are disturbed."

There is more than enough to be disturbed about, of course. But there is no room for confusion here if we look at this situation from the position not only of the RAPO but also of the oblast agroindustrial committee. After all, in its current form the agroprom [Agroindustrial association] has an adequate number not only of duties but also of rights to manage agriculture in the new manner and to sharply improve the economy of the village. In addition, it is

not necessary to wait for some kinds of new directives or clarifications. Instead, by utilizing the extent of its authority and the entire economic potential of kolkhozes and sovkhoses and their partners, the agroprom must simply continue to further strengthen cost accounting beginnings in all of its links. The new experiment is called upon to serve this goal as it significantly expands the limits of independence of all RAPO subdivisions--in planning, in the accumulation and utilization of income and in paying wages to all workers from the machine operator to the association's management.

According to the conditions of the experiment enterprises independently plan the volume of production and sales of all types of agricultural products, without of course dropping below the average annual level achieved in the past five-year plan, and the wage fund.

Kolkhozes and sovkhoses can dispose of their own resources and determine expenditures for the maintenance of the management apparatus. Moreover, unused resources and savings in sovkhoses are now not confiscated, but left in the enterprise.

I left Glazunovskiy Rayon with mixed feelings. At first I thought that the optimal variant for interrelations in cost-accounting contract collectives had been found. But now I saw that this was by no means the case. We must still improve the system of planning and wages, increase the authority of the economic contract, search for new support points to stimulate work quality and to turn the interests of all partners toward the end results of work and finally, decisively eliminate administrative recidivists in management. Thus I felt that the new stage of the economic experiment in Glazunovskiy Rayon was especially important today precisely within this framework.

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AGRO-ECONOMICS AND ORGANIZATION

LAGGING TURKMEN AGROPROM DEVELOPMENT VIEWED

Technology Application

Ashkhabad TURKMENSKAYA ISKRA in Russian 14 Feb 86 p 1

[Article: "Intensive Development for Agroprom"]

[Text] The TuSSR Gosagroprom is facing important tasks during the first year of the 12th Five-Year Plan. It will be necessary to ensure an accelerated development of this economic sector, to increase the production of vegetables, melon crops, grapes, fruits, and other food products, to perfect their procurement, storage, and processing and on this basis to improve the supply of foodstuffs for the population. The basic increase in these field and garden products should be obtained through the growth of the yield and rise in the productivity of livestock.

The application of advanced technology and introduction of new forms of labor organization and wages will contribute to the transfer of all agroprom links to the path of intensive development determined by the April (1985) Plenum of the CPSU Central Committee. Acceleration of scientific and technical progress is needed not only in agricultural production, but also in the industrial sector processing field and farm products. It should also be kept in mind that any work, including management work, begins from planning.

Unfortunately, the formation of the TuSSR Gosagroprom as a single republic organ of management of the agroindustrial complex has been delayed. This has made itself felt. To this day there is no single plan, which would closely coordinate the interests of producers of agricultural products--kolkhozes, sovkhoses, interfarm associations, and enterprises for their processing and storage. However, the plans drawn up by former ministries, which now form part of the agroprom, have a serious shortcoming: They are devoid of an overall approach to the introduction of innovations. For example, the plan of the former TuSSR Ministry of Agriculture is cumbersome, consisting of more than 100 measures. At the same time, many of them were to be introduced last year, but they remained on paper. In particular, the Administration for Agricultural Science, Propaganda, and the Introduction of the Achievements of Science, Technology, and Advanced Experience into Production did not analyze the reasons for the nonfulfillment of specific measures, automatically including them again in the plan for 1986.

The plan for the introduction of the achievements of science, technology, and advanced experience of the former TuSSR Ministry of the Fruit and Vegetable Industry, now the Administration for the Production and Processing of Vegetable-Melon Crops, Fruits, and Grapes, does not contain measures aimed at increasing the yield of vegetable and melon crops. Meanwhile, this year the increase in garden products is to be ensured through the growth of the yield.

The plan for the introduction of innovations is poorly coordinated with the present tasks of enterprises processing meat and dairy products, as well as with the interests of kolkhozes, sovkhozes, and livestock complexes. Measures for a sharp reduction in losses caused by long-distance transportation of sheep to meat combines are not determined in it. Owing to this, thousands of tons of meat are lost.

Problems of introduction of waste-free technology in plant growing and animal husbandry have been overlooked. The scale of application of innovations is uncoordinated. It would be advisable to select in every zone several farms for an extensive introduction of intensive technologies of cultivation of fodder crops, harvest programming, and an overall mechanization of cotton cultivation and picking, to send scientists there to provide practical assistance, and to more widely practice the joint work of kolkhozes, sovkhozes, and scientific research institutions on an economic contractual basis. Thus, it would be possible to create the basis for an extensive introduction of the achievements of scientific and technical progress during subsequent years.

However, for such large-scale work TuSSR Gosagroprom specialists themselves must give up formalism and old methods of introduction of the achievements of science and advanced practice into production, which have not proved their value.

Intensive technology requires a new approach to the quality of field work. It is time to definitely renounce the habit of working according to the method "I sowed and harvested what grew." When crops are cultivated according to intensive technology, one cannot work in such a manner. The results of last year, when many kolkhozes formally approached the cultivation of corn for grain according to industrial technology, showed this well. Most kolkhozes in Chardzhou Oblast sowed it together with lucerne and did not obtain the expected result. At the same time, the Komsomol Kolkhoz in the same Chardzhouskiy Rayon, where this technology was observed, gathered 84 quintals of grain per hectare.

New technology requires competent work on the part of the farmer. That is why personnel must be trained. Without profound knowledge no new endeavor will succeed. Unfortunately, the agroprom also approaches this matter in the old way. True, great hopes are pinned on oblast seminars. Now they are thematic, that is, on the pruning of orchards and vineyards, sowing of lucerne, and so forth. However, is it possible to get much out of a seminar, in which 350 to 400 people participate? The practice of holding such seminars has shown: This is a passive method of popularization of new things. Two-day seminars on intensive technology of cultivation of corn for grain are also planned. And

again there is a lack of coordination. Ten-day seminars of corn growing brigade leaders, at which special attention was drawn to the sector's intensification, were held in a number of oblasts, in addition to Ashkhabad Oblast, in January. Two-day seminars are now being prepared. The question arises: Is it worth to divert busy people from work twice?

Time is passing. Less and less time remains before the sowing campaign. However, the foundations for intensive technologies are laid both during the presowing period and during sowing. Land, where the entire set of fall and winter operations is executed at the highest agrotechnical level, should be allocated for innovations. This means that on every kolkhoz and sovkhoz right now fields, where a specific crop will be cultivated according to such technology, should be known, high-standard seeds and herbicides should be prepared, equipment should be repaired reliably, the sowing method should be determined, and many other problems should be thought out.

However, not all RAPO and farms approach this matter in this manner and the inertia of thought and fear of a novelty has not been overcome everywhere. Most important of all, innovations should be introduced on large areas, not on plots of land, as is planned on a number of farms for this year.

Intensive technologies represent a new endeavor. The time of general directives and slogans is past. Oblast and rayon party committees must keep this matter of vast importance under their daily control and move intensive technologies into production in every possible way, leaning on science and advanced practice.

Intensification of all agroprom sectors is a matter of state importance and a reliable way of fulfilling the social and economic program advanced by the party for the 12th Five-Year Plan. In the course of discussion of preconference documents the acceleration program was ardently supported by Turkmenistan's workers. Agroprom workers should do their utmost to obtain this year a big economic effect from the introduction of the achievements of scientific and technical progress and to create a base for the further movement of everything that is new and advanced to fields, farms, and all the subdivisions of the agroindustrial complex. Life demands this.

Ashkhabad Conference

Ashkhabad TURKMENSKAYA ISKRA in Russian 18 Feb 86 p 1

[Article: "Accelerated Development for Agroprom"]

[Text] The tasks of an overall development of the TuSSR Gosagroprom and of an accelerated solution of problems of increase in the production of agricultural products, refinement in the food sectors of industry, buildup of the output and procurement of foodstuffs, and improvement in their supply for the population were discussed at the conference of workers of the food and processing industry of the republic's Gosagroprom held in Ashkhabad on 17 February.

The report by G. S. Mishchenko, first deputy chairman of the TuSSR Council of Ministers, chairman of the TuSSR Gosagroprom, noted that a systematic realization of the tasks set by the party in the area of improvement in the people's well-being was the basis for a stable and dynamic development of the republic's agroindustrial complex. It is necessary to see to it that the TuSSR Gosagroprom maximally meets the republic's needs for food products through their local production and is fully responsible for this.

Analyzing the state of agricultural production and processing of products and the sectors' prospects in the light of the provisions of preconference party documents, the speaker stressed that during the years of the 11th Five-Year Plan the production of agricultural products increased. However, a number of shortcomings and oversights cannot be tolerated. They are especially clearly revealed in animal husbandry, where the production of meat has not increased and that of milk has decreased. The productivity of livestock and poultry is low.

APK processing sectors made certain advances during the preceding 5-year period. However, here too the population's demand for confectionery, bread, and flour products and nonalcoholic beverages is not met satisfactorily and plans with due regard for the sale of products according to contractual deliveries are not fulfilled. It is necessary to change over to local production of canned food and products now delivered from other republics.

The problem of an accelerated development of production capacities for the processing and storage of products remains a special bottleneck. Most food and processing sector enterprises are fitted with obsolete equipment and operate inefficiently. It is necessary to attain an efficient utilization of the potential of these sectors.

Subsidiary private farms play an important role in the solution of the Food Program, including in the sphere of consumer cooperatives. Problems of delivery of meat and dairy products for processing, utilization of potentials in fishing, acceptance and storage of flour in bulk, improvement in the condition of refrigerating facilities of the Gosagroprom, and other problems require a serious approach to their solution.

It was noted at the conference that stepped-up plans for the development of agriculture, the food industry, trade, and public dining were developed for the new five-year plan. Their successful fulfillment requires an intensification of organizational work and an increase in workers' creative activity.

N. V. Makarkin and K. Sakhatmuradov, members of the Bureau of the Central Committee of the Communist Party of Turkmenistan, and Yu. A. Kaykov, executive of the apparatus of the CPSU Central Committee, participated in the conference work.

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TILLING AND CROPPING TECHNOLOGY

GENETICS INSTITUTE DIRECTOR OUTLINES GRAIN SELECTION WORK

Moscow SELSKAYA ZHIZN in Russian 9 Jan 86 p 2

[Article by A. Sozinov, director, Institute for General Genetics, USSR Academy of Sciences, member, VASKhNIL: "Selection, Technology and Grain Quality"]

[Text] The draft of the Basic Directions for the Economic and Social Development of the country foresees a steady increase in the production of grain, the basis for a stock of food and feed. By the end of the 12th Five-Year Plan it is intended to increase the gross harvest of grain to 250-255 million tons. It is kept in mind to increase the production of durum and strong wheats and groat crops. This task can only be solved through the intensification of crop production. However, in recent years there have been negative phenomena in this process. In particular, there are often reductions in grain quality.

This is a very alarming phenomenon. After all, cereals account for over 70 percent of the gross production of vegetable protein obtained from 22 main crops. A fall in the protein content of cereal crops has a negative effect upon the quality of bread and other products, and upon the nutritional value of mixed feeds made from grains.

What are the causes of this process? It is the effect of a whole complex of factors, above all reductions in soil fertility and violations of the technology for wheat growing. Selection work is also definitely at fault. In past five-year plans plant breeders have created quite a large collection of grain crop varieties and hybrids capable of higher yields than their predecessors. However, because there is an inverse relationship between grain yields, protein content and technological suitability, many of the new varieties did not have the needed quality. However, contemporary selection has become able to overcome this barrier. There are a number of varieties, for example, bezostaya 1, odesskaya 51, obriy and pavlovka winter wheat, with yields and technological qualities which markedly exceed their predecessors. However, there are not yet many such examples. In recent years several varieties with grain quality which is not too high have been regionalized. This shortcoming is made even more serious by shortages of nitrogen in the soil.

The conditions are now present for solving the quality problem with the help of selection and technology. There are now about 30 fully equipped selection centers for grain crops, operating in the country. There are also qualified cadre.

What is hindering this matter? In our view, one of the reasons is the insufficient use of the latest genetic achievements in selection work. As you know, the potentials for their widespread use have sharply grown in recent times. What not too long ago was an abstract theory, has now acquired real features and in the immediate future will move into practical application. Above all, this applies to the study of the molecular mechanisms for the biosynthesis of extra protein in grains. It has been established that these proteins are coded by parent genes arranged in the chromosomes of the cell nucleus, the main carrier of the organism's hereditary information. These genes have been extracted, their structure studied and it has been discovered that they exhibit huge diversity because of special regions of repeating sequences of DNA. It is this property that determines, in wheat, for example, the wide variability of gluten quality.

In the course of research, scientists at the Institute for General Genetics, USSR Academy of Sciences and the All-Union Selection-Genetics Institute have developed methods making it possible to rapidly recognize different variants of gene groups coding extra gluten forming protein in wheat. In other words, they have learned how to easily "find" the material from which is formed grain capable of producing high quality bread or macaroni. This method, based upon the analysis of the electrophoretic spectrum of protein, produces information about new selection forms by only using half of the grain, saving the other half with the germ to raise plants. In the near future this work will be computerized.

A catalogue of protein in all regionalized domestic and many foreign varieties has already been prepared for publication. It is especially important that the use of variants of extra protein blocks as genetic markers of a new class made it possible to study those patterns in the selection of new varieties which were previously inaccessible to observation. For example, it was discovered that plants in each agricultural region have definite, stable associations of genes which adapt them to local conditions. Therefore the creation of new, more valuable associations of genes is one of the most important tasks of selection. Its solution, now quite realistic, will make it possible to achieve many goals, including grain quality improvement. There is every basis to assert that if work in this direction is continued more intensively, then in the immediate years ahead it will be possible to create a new technology for grain selection based upon the design of plants with the most valuable characteristics and properties. The immediate prospects of selection work extends from the cultivation of cells on special substrates, the raising (regeneration) of plants from them, studies of the variability of protein molecules and DNA structure, all the way to the goal directed transfer of genes.

However, in order for developments in this area to move ahead more quickly and be introduced smoothly into production, it is necessary to take energetic steps to combine the efforts of collectives of scientific institutions in the

USSR Academy of Sciences and VASKhNIL. It is especially important to improve the training of highly skilled specialists having a good knowledge of methods in contemporary genetics, biophysics and biochemistry. At present they are in extremely short supply. Unfortunately, genetics courses in agricultural VUZ's have now been unjustifiably cut back and examinations in this subject have in general been eliminated. In universities, on the other hand, students receive little acquaintance with contemporary selection and the needs of agricultural production.

In light of recent scientific achievements there should be a more precise determination of the specific tasks of selection, taking into account the requirements of each agricultural zone. For example, in the steppe regions it is above all necessary to have highly productive, stable varieties of strong wheat, which would consistently form high quality grain. In these areas 30-40 percent of the land devoted to wheat could be planted to valuable varieties with sufficiently high protein content and capable of surviving extreme conditions: low temperatures, drought, increased acidity or alkalinity.

As far as soft wheat is concerned, in our view it has long been necessary to classify its varieties by grain quality, as is done in many countries. Incidentally, scientists have already worked out classifications for domestic wheats. It is also necessary to have a new standard for commercial wheat, to stimulate the production of high quality grain.

I especially want to mention feed grains. There is the opinion that wheat is purely a food grain and that it makes no sense to use it for feed purposes. It is thought that the strong gluten in wheat hinders animals' digestive process. However it is known that this shortcoming is easily eliminated: it is sufficient to reduce the wheat content of mixed feeds to 30 percent.

There is much evidence in favor of wheat as a feed grain. First of all, it is impossible to meet the country's demand for feed grains only through barley, corn, oats and pulse crops. In the Nonchernozem Zone and other regions, winter wheat produces the highest yields with moderate expenditures of energy. As a rule, the grain produced is unsuitable for baking bread, but more suitable for feed purposes.

It follows that special varieties of feed wheat with increased protein content and weak gluten should be created for this zone. In the process, their selection for high productivity is made considerably easier. The All-Union Selection-Genetics Institute has already bred one of the first such varieties, the "odesskaya zernofurazhnaya" [Odessa Grain Feed]. It appears that it is now time to organize special selection programs for feed wheat, as has been done in a number of countries.

Now a few words about the technical side of the question of improving grain quality. As is known, under intensified agriculture, growth in grain and other crop yields is obtained above all through increased doses of plant nutrients, especially nitrogen. Thus, a 15 quintal per hectare yield of winter wheat (containing 14 percent protein) takes 45 kilograms of nitrogen out of the soil, and a 30 quintal yield takes out 90 kilograms. There is an especially acute nitrogen shortage in regions where the soil has been intensively worked

for many years and high yields obtained (the Ukraine, North Caucasus, Central Chernozem region, the Volga). Water erosion causes increased nitrogen losses. Expansions in bare fallow, which create better conditions for plant nutrition, also promote the intensified depletion of soil fertility. For example, in an experiment conducted for several years in the northern steppe in the Ukraine, in addition to yields (grain and straw) on winter crops following fallow, every year an average of 130 kilograms of nitrogen are removed from each hectare; on land planted to corn about 80 kg of nitrogen are removed. In the first case grain yields -- and higher quality at that -- were 11 quintals higher. Therefore, in intensified crop production, increases in the applications of organic and mineral fertilizers (above all nitrogen) are a necessary condition for maintaining high levels of grain protein.

As a rule, the best results are obtained from multiple applications of this element. It is advisable to use either easily soluble forms during the period from sprouting to stem extension up until the beginning of grain formation, when, as a rule, soil moisture conditions are favorable, or, to do some top dressing with a solution of urea from florescence to the completion of the milky ripeness stage.

It is important to remember that if there is an acute shortage of moisture, the application of large dosages of nitrogen can lead to reduced yields. Therefore, the techniques for growing high protein feed grains should be flexible enough to completely take into account changing conditions. They should make provisions for rationally changing schedules, methods and doses of fertilizer, and other operations, depending upon weather conditions, soil fertility, the variety grown and other factors.

In our view, this touches only upon the most important questions in the improvement of food and feed grain quality. Their comprehensive practical solution will help accelerate our ascent to high and stable harvest of grain of the required quality.

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TILLING AND CROPPING TECHNOLOGY

VARIETAL DEVELOPMENT IN BELORUSSIAN SSR

Moscow EKONOMICHESKAYA GAZETA in Russian No 4, Jan 86 p 18

[Article by D. Patyko, TASS correspondent, Minsk: "A Newcomer to the Fields"]

[Text] On the basis of the utilization of biotechnology and genetic engineering to strengthen work to develop and introduce new, highly productive varieties and hybrids of agricultural crops into production.

From the draft of the Basic Directions

The new triticales [cross between wheat and rye] variety, Nemiga-2, which was developed by scientists of the Institute of Genetics and Cytology of the Belorussian Academy of Sciences All-Union NII [Scientific Research Institute] of Plant Growing and the Issyk-Kul'skaya Testing-Breeding Station, has been recognized as being promising for cultivation. During the period of 5-year testing on Kirghiz fields this hybrid of rye and wheat yielded 60-70 quintals of grain per hectare, and on some plots--even 100 quintals and more.

The new grass is demonstrating such surprising productivity thanks to an enormous ear, in which there is 2-3 times more grain than in the wheat spike. The stem is strong and capable of withstanding even storm winds. Nemiga-2 surpasses wheat in both protein content and quality.

"The variety yields good results although it has not yet achieved its genetic ceiling," says the director of the Institute of Genetics and Cytology of the BSSR AS [Academy of Sciences] and academician of the BSSR AS, L. Khotylev. "In the large spike we still find grain that is not of full weight, that is of improper shape or that is wrinkled. This is a general shortcoming of tritikale related to imperfections in the interaction of rye and wheat chromosomes. To help them "find a common language" is the goal of today's experiments. Promising results have already been achieved. The new variety will also be improved by means of curtailing the vegetative period. After all, today it has time to fully ripen only in the south. But we decided to make it suitable for cultivation in the central belt as well."

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TILLING AND CROPPING TECHNOLOGY

VARIETAL DEVELOPMENT IN KIRGHIZ SSR

Frunze SOVETSKAYA KIRGHIZIYA in Russian 27 Sep 85 p 2

[Article by V. Yakusevich: "A Mighty Variety"]

[Text] The yield of seed produced on the fields of the Kirghiz Machine Testing Station has become a dependable foundation for the dissemination of Lyutestsens-46, a promising new wheat variety, in the republic's valley enterprises. The entire batch--about 600 tons of sowing material--has been evaluated by specialists from Gosstandart [State Committee on Standard of the USSR Council of Ministers] as being first class.

"This seed is sent for further multiplication by specialized enterprises of the Chuyskaya Valley and Talas and Issyk-Kul oblasts," said the senior agronomist of the republic's association of Sortsemprom [Association of the high-quality seed industry], A. Pekhota, in a discussion with a reporter from KirTAG [Kirghiz News Agency]. "Already at the end of the month we will be able to put Lyutestsens-46, developed by Kirghiz scientists, on 5,000 hectares. This type of accelerated introduction of the new variety into production has not been seen before in our practical experience, especially if we consider that the variety has not yet been regionalized. But we decided not to wait until all formalities involving the confirmation of the new variety are concluded because the testing that has occurred during the last 2 years has demonstrated its merits completely."

Thus, the high degree of bushiness of this wheat, which enables us to decrease the sowing norm by a factor of one-fourth, demonstrates its positive characteristics under conditions of intensive technology. Farmers of the Kirghiz MIS [Machine-Testing Station] produced an average of 64 quintals of grain on plots where all requirements of progressive technology were adhered to. On fields sown in October, and for this variety this is a late date, only 48 quintals were harvested. The new variety likes irrigation. In places where there is sufficient water the harvest is amazing. At the Przhevalskiy State Variety Section last year each hectare of the test field yielded 118 quintals of grain. The country's breeders have never achieved such results before.

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TILLING AND CROPPING TECHNOLOGY

BRIEFS

SEED PREPARATIONS COMPLETE--Bryansk, 4 Jan 86 (TASS)--The farmers of Bryansk Oblast have completed the preparation of spring crop seed for sowing. Almost 95 percent of seed corresponds to first and second class of the sowing standard. Machine operators are carrying out equipment repair ahead of schedule. All sowing and soil cultivation units, 85 percent of tractors and almost the same percentage of grain combines are already prepared. [Text] [Moscow SELSKAYA ZHIZN in Russian 5 Jan 86 p 1] 8228

QUALITY SEED--Yoshkar-Ola, 7 Mar 86--The farmers of the Mari Nonchernozen region are full of decisiveness to activate efforts directed at fulfilling the decisions of the 27th CPSU Congress and at implementing the country's Food Program. Already this year it is planned to significantly increase the productivity of grain crops. Seed farming enterprises are rendering considerable aid in this to kolkhozes and sovkhoses. Thus, the republic agricultural research station has supplied farmers with over 4,000 tons of elite seed and seed of the first reproduction. Basically, these are seed of promising high-yield varieties of grain and feed crops. This year it is planned to significantly increase the supply of quality seed for kolkhozes and sovkhoses. With this goal in mind it is planned to expand the network of test-production enterprises involved in seed farming. [By V. Goncharov] [Text] [Moscow SELSKAYA ZHIZN in Russian 8 Mar 86 p 1] 8228

SEED PREPARATIONS CONTINUE--Rovno, 4 Mar 86--Workers of Pervomayskiy Kolkhoz were first in Dubnovskiy Rayon to complete seed preparations for spring. At present the preparation of seed material has already been completed in all enterprises of the rayon. The interfarm enterprise, which was put into operation late last year, has helped to considerably decrease the time it takes to perform this work. In Rovno Oblast five interfarm enterprises are involved in the preparation of the seed fund. Grain seed from the enterprises of Rovenskiy, Kostopolskiy, Goshchanskiy and other rayons has been classified as first class. [By N. Tereshko] [Text] [Moscow SELSKAYA ZHIZN in Russian 5 Mar 86 p 1] 8228

PRODUCTIVE VARIETIES--Frunze, 9 Jan 86--In competitive testing of over 30 varieties of winter wheat during the last 2 years the Przhevalskiy Variety Testing Section showed a productivity that breeders have long dreamed of--100 and more quintals of grain per hectare. The largest and record yield was achieved with the Moldavian Budzhak variety--121.8 quintals. The latest new

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varieties from breeders convince us that the biological possibilities of winter wheat are not exhausted by far. [By B. Danilov] [Text] [Moscow SELSKAYA ZHIZN in Russian 10 Jan 86 p 1] 8228

INTENSIFICATION EMPHASIZED--Krasnodar--Science is to play a large role in production intensification and in accelerating the socio-economic development of the country. A firm foundation is being laid for this. I agree that in many respects science must be of an applied nature but at the same time it must be theoretical in essence. There is nothing more practical than a good theory. This was convincingly discussed by M. S. Gorbachev at the congress. We are taking steps along the path of intensification of research. The introduction of biotechnology enables us to accelerate the development of variety samples characterized by an entire series of economically-valuable characteristics. Biotechnology gives us the opportunity to develop varieties within 9-12 months instead of the usual 7-9 years. [By Ye. Aleshin, VASKhNIL [All-Union Academy of Agricultural Sciences imeni V. I. Lenin] academician, director of the All-Union NII [Scientific-Research Institute] of Rice and recipient of the USSR State Prize] [Text] [Moscow SOVetskaya Rossiya in Russian 1 Mar 86 p 1] 8228

LENINGRAD PLANT BREEDERS--Ashkabad--Scientists at the All-Union Institute for Plant Institute imeni N. I. Vavilov are "programmed" for high future yields. As a result of many years of research and experiments on test plots they have bred crops with valuable characteristics -- productivity, quick ripening and drought resistance -- which are needed for switching crop production to intensive rails. The institute's associates have begun to send out such seeds. The first batch was sent to specialists at the All-Union Scientific Research Institute for Grain Growing in Kazakhstan. Associates at the All Union NII for Plants are doing extensive work on varietal renovation of the country's groups. In studying the collection of world flora at the Institute, which amounts to almost 350,000 samples, they have opened a "work front" for the design of varieties and are actively participating in their creation. [Text] [by TASS] [TURKMENSKAYA ISKRA in Russian 29 Sep 85 p 1] 11574

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FORESTRY AND TIMBER

VASKHNIL SCIENTIST ON TIMBER PROCUREMENT, RESOURCE PROBLEMS

Moscow LESNAYA PROMYSHLENNOST in Russian 18 Feb 86 pp 2-3

[Article by N. Moiseyev, correspondent member, VASKhNIL [All-Union Academy of Agricultural Sciences imeni V. I. Lenin]: "Tomorrow's Forests are Growing Today"]

[Text] Now, when the discussion of the Basic Directions is coming to an end, the question again arises as to what is always hindering our forest sector from occupying its proper place in the national economy. In fact, although our country is first in the world with regard to forest area and even total logging volume, it continues to seriously lag behind the industrially developed countries in the use levels of logged timber and, consequently in per capita consumption of the main types of forest products, particularly, cellulose, paper, cardboard, veneer and certain others.

The extensive, obsolete character of the forest industries complex (LPK) is the primary reason for the sector's prolonged lagging. To paraphrase a well known saying of Admiril Makarov, one could say that the "slowest ship" which determines the "speed of the fleet" has always been and remains the chronic lagging of the cellulose-paper industry (TsBP). This is the largest user of small commercial coniferous timber, softwood timber and timber wastes. The total reserves of such wastes in just the European part of the country would support double the present production volume of the forest products now in short supply.

Such lopsided development in the forest industry is kicking its foundations out from under it. The exploitation of the forest resource base is accelerating. Every year there is an increase in the capital investments needed to maintain the logging level attained, although for balanced development in the LPK it would be more useful to use them for processing. The lack of small commercial coniferous and deciduous timber delays the development of forest operations, especially forest composition management. The expansion of management, disease and pest control and reconstruction cuttings would assure considerable additional volumes of raw wood. In the European areas this would amount to tens of millions of cubic meters.

The drafts to the Basic Directions foresee pace setting growth rates for wood processing. This is good. Nevertheless, the growth rates for the TsBP are not

sufficient. Planning organs should examine this question even more attentively.

In industrially developed countries such as the United States, Canada, the FRG, Austria, Finland, Sweden and Japan, i.e. countries high percentages of total world production and consumption of forest products, the restructuring of the LPK took place mainly during 1950-1970. Processing, mainly the cellulose, pulp and paper industry, has the leading place in the forest sector of the industrial countries. Its development has given priority to forestry as a sector, without which the systematic development of the LPK is unthinkable. In the LPK of the industrially developed countries, logging does not have such complacent importance as it does with us. It is a supplier of raw materials and, at the same time, an intermediary between processing sectors and forestry, under the aegis of the latter. {sic}

The recommendations of the 9th World Forestry Congress in 1985 stressed the need to adapt the multisectoral forest industry to the local features of forests in each region. The Congress did not recommend only the construction of large enterprises, which are not always effective, especially where there are transportation constraints and low concentrations of exploited stands. This is an especially urgent situation in our regions with average and low density stands, in which there are considerable reserves of unused timber.

In getting acquainted with the results of recent oblast and kray party conferences one vividly sees that practically everywhere emphasis is placed upon processing, but no effective measures are yet being planned even for the 12th Five-Year Plan. Thus, in Kirov Oblast, every year about 2 million cubic meters of deciduous wood and wastes are not used, while there are still only discussions about the construction and expansion of enterprises. The serious situation into which the Kotlass TsBK [Cellulose, Pulp and Paper Combinat] has befallen is evidence of the lack of attention paid to processing. Suprisingly, over the past 40 postwar years, the TsBK has not been given priority in the LPK. Our LPK's development is also lagging behind the European, especially the Scandanavian, countries.

It is from this starting point that we must begin to decisively restructure our LPK's obsolete structure through fundamental changes in investment policies in this sector of the national economy. Taking this much overdue strategic step requires a program of action for the entire forest sectors complex, coordinated for each each region and taking into account the specific nature of local forests, their national economic importance and their unconditional sustained yield exploitation. Under these conditions it is extremely necessary to have a systematic interdepartmental approach to working out a long term program for the utilization and reproduction of forest resources for each region. This means combining the efforts of scientific and design organizations in all forest sectors under the aegis of the USSR Academy of Sciences, VASKhNIL and the State Committee on Science and Technology.

It is necessary to prevent exhausting the usable resource bases of forest industry complexes such as those at Bratsk and Ust-Ilimsk, and large forest industry centers and combinats. The activities of numerous units doing their

own logging require unconditional constraints. Order must be brought into the work of lespromkhoz [timber handling operations] of the main logger -- USSR Minlesbumprom [Ministry of the Timber, Pulp and Paper and Wood Processing Industry], which is functionally obligated to deliver all timber to its customers, but instead tries to prepare it at its own lower landings. Unfortunately, this is a quite widespread disorder and leads to large processing enterprises becoming "beached whales".

The maintenance of comprehensive forest enterprises in USSR Minlesbumprom is interpreted in a simplified manner as the general combination of logging, processing and reproduction within the framework of the lower enterprise alone. This approach is also in the forest industry section of the drafts for the Basic Directions.

In actuality, in regions with many forests, especially in zones where large processing centers are operating, logging enterprises should be subordinate to them and operate only under their coordinating management in the form of specialized enterprises supplying raw wood. An attempt is being made to set up such a system at the Ust-Ilimsk LPK. This procedure should be common to all large wood processing centers in the taiga zone. Large forest industry complexes of the Bratsk type are assuming the shape of a complex of interlinked specialized enterprises in different sectors, obligated to work according to a common coordinated program based upon intersectoral cost accounting relations under the aegis and the unified management of the general board of directors of a large multisectoral forest industry production association.

Each use area of such a large forest industry complex should be legally established by special government decree, enhancing its status and protecting it from the squandering which is observed. Comprehensive multisectoral long term programs for the use and reproduction of forest resources should be worked out for such forest resources use areas. These programs' goal is the intensification and coordinated increase in the entire LPK's production volume through increases in forest productivity. There is not yet an example of this type of coordinated multisectoral programs. In the meantime, it is obvious to each specialist that having made huge capital investments in the Bratsk or Ust-Ilimsk Complexes, it would be criminal not to be concerned about the creation of a reliable, constantly operating raw material base.

To develop long term programs within the boundaries of user forest resource use areas for large LPK it is advisable to combine the efforts of main scientific and design organizations in the forest sectors.

A second important factor in bringing order into forest exploitation in multiforest rayons is the need to give them reliable norms, taking into account at least the elementary demands of rational methods for forest restoration and environmental protection. One must not shut one's eyes to the fact that progressive logging experience in the protection of seedlings and in cleaning cutover areas intended for forest plantings is still not what it should be -- an ordinary norm for logging enterprises. The experience of Hero of Socialist Labor P. Popov shows convincingly that it is completely possible to combine record output and the efficient use of equipment with a concerned

attitude towards the protection of young valuable trees. There are examples of such labor in almost every oblast, however, they have not become a norm for everybody. The reasons for this negative phenomenon is not so much insufficient demands on the part of forestry organs and the managers of lespromkhozy, as it is the opinion of some workers in the USSR Minlesbumprom central apparatus that intensification involves the universal transition to planted forests, and restrictions in felling and skidding methods. Such a departmental approach has nothing in common with scientific research results or progressive experience.

Data from many years of research by scientific organizations convincingly show the need to extensively use effective measures of natural regeneration for a number types of forests and and felling areas in multi forest regions. In view of the acute shortage of key personnel this will help assure maximum economies in labor. Data from VNIILLM [All Union Scientific Research Institute for Forestry Mechanization], the Arkhangel Institute for Forests and Forest Chemistry and the Forest Institute at the Karelian Affiliate of the USSR Academy of Sciences show that by protecting coniferous seedlings and undergrowth one can obtain the presently scarce mature coniferous timber more quickly than by expensive and very energy intensive plantings, as is now being done for the cellulose, pulp and paper industry.

Heavy logging equipment compacts the soil and damages its water retention and physical properties. This reduces soil fertility and the productivity of future forests. Data from Soviet science have shown that this negative phenomena is widespread, especially where equipment goes beyond the limits of portages and "tramps" around the entire plot.

However, timber is not the forest's only resource. A conservation minded attitude towards the food, medicinal and technical resources in the forest should become a requirement for rational forest exploitation. Observations show that where skidding violates technological discipline the berry cover is eliminated and it can only be partially restored even after many years. This not only damages food resources, but also fauna for which the berries serve as food. Damage to one component of the biogeocenosis causes forest degradation. These are the consequences of the exploitation of the remarkable cedar-deciduous forests in the Far East, the so-called northern jungles. They are vividly seen at the Sidatunskiy Lespromkhoz in Primorskiy Kray, which, upon order by the GKNT, has become an object of careful study by scientists and specialists in a number of sectors.

It is time to stop the practice of logging at any price, not taking into account the interests of forestry or the broader requirements of environmental protection.

In recent years much attention has been given to the need to more the complete use of Group I forests. Undoubtedly, these forests have large stands of timber. In practice these forests are of multifaced importance to our society. Take, for example, the forest in Moscow Oblast. It is used for recreation by the many millions of people living in Moscow and other cities in the area. It also protects drinking water sources. Without a doubt, timely and full use

should be made of timber in this and other Group I forests, not waiting for its quality to deteriorate.

What is hindering the more complete use of these forests? First of all, it is insufficient capacity for the processing of wood which has not found a market. Above all, this applies to large unutilized stands of soft, broadleaved trees, -- aspen and birch. The construction of small (up to 10,000-50,000 cubic meter) DSP [wood chip] plants for processing such timber is an urgent task. However, our machinery building sectors are not even orienting themselves to produce equipment for such plants. It is necessary that the draft of the Basic Directions make provisions to give machinery builders orders for such equipment.

However, one can not simply brush aside a second important condition for the more complete use of Group I forests. This is the development and introduction of equipment which is more maneuverable and less harmful to nature. As you know, technological policy in the forest industry is still oriented only towards one method of felling -- the clear cutting of level taiga forests. Its use is limited for Group I forests, including green zones and, more importantly, forest parks, it cannot be used for pest and disease control cutting or management cutting. Powerful, multipurpose equipment leaves deep tracks in loamy soils, especially during bad weather. This "disfigures" not only the soil, but also the landscape. It is therefore time to more widely use wheeled tractors from the Minsk Tractor Plant for such purposes.

Interconnected problems can only be solved through the coordinated efforts of scientists and practical workers in the entire complex of forest sectors. This is required by the CPSU Central Committee and USSR Council of Ministers decree: "On Improving the Use of Forest Resources". Coordinated action according to a common program is the main reserve for accelerating the development of forestry and the forest industry and for increasing their contribution to the national economy.

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