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10 APRIL 1987

USSR REPORT  
NATIONAL ECONOMY

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## AGRO-ECONOMICS, POLICY, ORGANIZATION

### 1987 PLANNING GOALS FOR AGRICULTURE HIGHLIGHTED

Moscow EKONOMIKA SELSKOGO KHOZYAYSTVA in Russian No 1, Jan 87 pp 3-9

[Unattributed article: "Plan for the Second Year of the Five-Year Plan"]

[Text] The 27th CPSU Congress has developed a plan for the transformation of Soviet society that is historic in significance, grandiose in scale and revolutionary in spirit. The Communist Party has boldly and decisively taken a course toward accelerating the social and economic development of the country. Already in the 12th Five-Year Plan on the basis of scientific-technological progress it is essential to achieve a high pace of production growth in order to increase economic potential in a compressed period of time, to deal with the food problem, to secure continued growth in the well-being of the Soviet people and to raise the international authority of the USSR to an even greater extent.

In every republic, kray and oblast the first year of the 12th Five-Year Plan was marked by the implementation of the resolutions of the 27th CPSU Congress. The subsequent implementation of the course chosen by the party is having a great effect on the production and public-political activities of all strata of the population.

The Politburo of the CPSU Central Committee, in examining the results of work for the period that has passed since the congress, has noted that the selfless labor of the Soviet people yields positive results in all branches of the national economy. It is especially important that strategic growth factors have begun to be more influential--acceleration of scientific-technical progress, intensification, improvements in production organization, improvements in the investment process, improvements in product quality and economizing on resources. The process of restructuring is gaining more and more momentum. The growth pace of many branches of the economy surpasses the corresponding pace for 1985 and that planned for the first year of the five-year plan.

Positive results have been achieved in the country's agroindustrial complex as well. In 1986, despite the drought in the lower Transvolga region and in the southern Ukraine, gross grain yield in the country was significantly higher than in 1985. It reached almost 210 million tons. In its level this harvest was the fourth largest in the history of our state.

It is noteworthy that we were able to sharply increase the production of durum, strong and valuable varieties of wheat grain. A fair harvest of seed of oil-bearing crops and raw cotton has been cultivated. The plan for the sale of potatoes to the state has been overfulfilled. Good results have been achieved in the fruit and vegetable industry. More feed was procured than in 1985.

Noticeable changes are taking place in livestock raising as well. The planned growth in the pace of production output has been achieved, primarily as a result of intensive factors. The productivity of the dairy herd has increased--on the average per year milk yield per cow has increased by 111 kilograms. We have never before achieved such significant growth. The average daily weight gain of feeder calves increased. State procurement of milk increased by 5 percent, of meat--by 8 percent and of eggs--by 6 percent. Considerable growth in production output has been achieved by the enterprises of the food, meat and dairy and fish industries as well as by other subdivisions of the agro-industrial complex.

Thus, the step forward in increasing agro-industrial production is evident. The volume of gross agricultural production increased by about 10 billion rubles; of production in the branches of the food industry--by 5 billion rubles. Labor productivity has grown. The production cost of agricultural and industrial products has decreased. There has been some improvement in other economic indicators of the work of enterprises and organizations of the branches of the APK [Agro-Industrial complex].

But this is only the beginning. Ahead of us there still lie many problems which require solutions. A great deal must be done to consolidate and develop the positive changes in the economy that occurred during the first year of the five-year plan and to more fully bring into action the long-term factors involving public production both in agriculture as well as in the processing branches of industry. In a number of republics and oblasts there are still many shortcomings and unsolved problems. We must significantly strengthen the integrating ties within the agro-industrial complex and bring the restructuring of the APK administration to its logical conclusion, especially on the rayon and oblast levels.

At the regular session of the USSR Supreme Soviet the Government Plan of Economic and Social Development of the USSR and the State Budget for 1987 were examined. These are programs for the second year of the 12th Five-Year Plan and for the 70th year of existence of our socialist state, the first in the world. The discussion at the session of the plan's creative activity showed that the Soviet people are full of decisiveness at the start of this year to steadfastly implement the party's strategic course, which is aimed at achieving new successes at a rapid pace. The results of 1986 are an important prerequisite for the successful fulfillment of regular tasks.

The continued development of the agro-industrial complex, the strengthening of the material-technical base, the growth in effectiveness of all branches and on the basis of this the improvement of food supplies for the population are planned. The volume of gross agricultural production will increase by 7.6

percent as compared to 1985 levels. All growth will be achieved by means of increasing labor productivity.

The main task of agricultural workers in republics, krais, oblasts and all kolkhozes and sovkhoses involves achieving the continued growth of grain production. The true path toward achieving this goal is the transition to intensive technology for cultivating grain crops. This year such technologies will be used by enterprises to cultivate grains on an area of 35.4 million hectares as compared to 29 million hectares in 1986.

The experience of last year has shown that in rayons and enterprises that have mastered well the art of using intensive technologies an unheard-of harvest of wheat grain has been produced--50-70 quintals per hectare of winter wheat and 35-40 quintals per hectare of spring wheat. Especially weighty was the increase in the Kuban, Stavropol Kray, the Bashkir ASSR, Northern Osetiya and Moscow, Omsk and Kustanay oblasts. The kolkhozes and sovkhoses of Krasnodar Kray, for example, have harvested grains at a rate of 42.6 quintals per hectare and have sold the state over 4.3 million tons; of the Bashkir ASSR--22.6 quintals per hectare and over 3 million tons respectively.

In addition to the introduction of intensive technologies it is possible to expand the area in grain crops by 2.8 million hectares in accordance with zonal scientifically-based farming systems and to apply 5.6 million tons more mineral fertilizer than in 1985 in order to increase gross grain yield.

Every rayon, kolkhoz and sovkhos must make a maximum effort to increase the productivity of grains and especially of legumes and groats crops. Reserves for this do exist. We must decisively turn away from imitation and antiquated farming systems, raise the general level of quality of agricultural production and more boldly proceed toward the introduction of the latest scientific and technical achievements.

The grain problem is closely related to the problem of supplying livestock with feed. In 1987 it is essential to increase feed production to 48.2 billion feed units, an increase of 6.1 billion feed units (15 percent) as compared to 1985 levels. In doing this it is necessary to procure 104 million tons of hay, 69 million tons of haylage and 276 million tons of silage.

This goal is completely realistic. Kolkhozes and sovkhoses allocate 430 million hectares of agricultural lands for feed production. Each year they receive modern feed-harvesting technology. They have the opportunity to apply mineral and organic fertilizers to feed crops in ever-increasing volumes. Larger and larger areas of feed lands are being irrigated. In recent years the availability of storehouses for the storage of coarse, succulent and concentrated feeds has increased.

Stable growth in the production of feeds by enterprises themselves enables us to economize on grain and vice versa, a neglectful attitude toward the development of the feed base exacerbates the situation involving grain forage supplies. The kolkhozes and sovkhoses of a number of republics and oblasts systematically do not fulfill plans for the production and procurement of

coarse and succulent feeds, the shortage of which is then covered by the ever-growing expenditure of grain for forage.

For example, during the 11th Five-Year Plan the enterprises of Orel Oblast fulfilled the plan for hay procurement by only 81 percent, for haylage procurement--by 79 percent and for the procurement of feed root crops--by 72 percent. Here over half of the coarse feeds were of a low quality. Calculated on the basis of a unit of livestock production output the expenditure of feed exceeded the norm by a factor of 1.5-2. In Tula, Gorkiy and Penza oblasts and the Kalmyk ASSR 400-500 grams of concentrate were expended for the production of 1 liter of milk. There was a sharp rise in the expenditure of such concentrates for the production of beef and pork in the kolkhozes and sovkhoses of a number of the Transvolga and Western Siberia economic regions, the Ukrainian SSR and the Moldavian SSR. Moldavian enterprises have increased the feeding of concentrated feeds to cattle by a factor of 2.1 whereas production output in this branch increased by only 50-60 percent. The share of concentrates within the total volume of feeds used in the enterprises of the Lithuanian SSR, the Latvian SSR and the Estonian SSR has increased. The kolkhozes and sovkhoses of the Georgian SSR and the Azerbaijan SSR are using grain uneconomically.

We cannot continue to work like this. This year there must be a change in feed production.

Valuable experience in the development of a stable feed base has been gained in Nazarovskiy Sovkhoz of Krasnoyarsk Kray, in the Kuban Agricultural Combine of Krasnodar Kray, in Progress Kolkhoz of Grodno Oblast, in Kirovskiy Rayon of Stavropol Kray and in many enterprises of Belgorod Oblast. They have organized the stable supply of feeds that are balanced in protein and carbohydrates for the growing herd of cattle and poultry on the basis of an improved feed crop structure, of moving a portion of crops to irrigated lands and of the radical improvement of natural haylands and pastures.

An important element in feed production is the cultivation of perennial cereal and leguminous grasses, the cultivation of corn for silage and green feed according to intensive technology, and the cultivation of rape and feed root crops. It is essential to improve methods for preparing feeds, to prepare hay with the aid of active ventilation, to stockpile monofeeds and haylage, and to extensively utilize silage preservation agents and protein supplements. An enterprise's own feed base is a dependable foundation for raising the productivity of public livestock raising and for increasing production output on the private plots of citizens.

The main reserve for growth in feed productivity involves increasing the productivity of meadows and pastures, cultivating them and using them skilfully. Minimal expenditures are required for this and the gains for the enterprise in the form of additional yield of full-value, protein-balanced feeds is considerable--1,000-2,000 feed units per hectare.

During the second year of the current five-year plan a great deal remains to be done to increase the production of sugar beets. This crop will be cultivated on 2.8 million hectares according to intensive technologies. The

crop is fully supplied with mineral fertilizers and with plant-protection agents. All the conditions exist for achieving a considerable increase in yield on beet plantations.

This is convincingly attested to by the work experience of Zarya Kommunizma Kolkhoz of Korenevskiy Rayon, Kursk Oblast. The enterprise has for many years been producing harvests of sugar beet roots of 500 quintals and more per hectare with stability. In 1986 yield here surpassed 600 quintals per hectare. Such enterprises also exist in the Ukraine and in the Northern Caucasus. We must persistently disseminate their work methods in all beet-cultivating regions of the country.

A great deal of work must be done to achieve growth in production output of oil-bearing crops. In 1986 as compared to 1985 the yield of sunflower, soy and other oil-bearing crop seed increased by over 500,000 tons. But this is extremely inadequate for satisfying the country's needs for vegetable oil and protein feeds. It is essential to significantly increase the gross yield of sunflower seed, to expand the area in winter and spring rape and to increase the yield of soybeans and crown flax.

The plan foresees a noticeable increase in the production and procurement of flax fiber and tea leaves. We must secure and continue to develop the positive tendencies in the production of potatoes and fruit and vegetable products.

Residents of cities and industrial centers have given high marks to the useful initiative of kolkhozes and sovkhoses--trading fruit and vegetable products directly in markets. This important matter must continue to develop. It is essential to expand the assortment, to produce more early produce and to more fully meet the needs of the population for melons and table varieties of grapes. At the same time we must take measures to remodel trade sites and to create storehouses for fruit and vegetable products in marketplaces.

In 1987 we must hold the pace of growth in livestock production that was achieved during the first year of the five-year plan. In order to accomplish this we must increase gross meat production (slaughter weight) to 18 million tons, milk production--to 101.5 million tons, egg production--to 78.7 billion eggs and wool production (physical weight)--to 462,000 tons. Although the livestock program is intensive, it can realistically be carried out.

Enterprises have prepared for the wintering of livestock in 1986/1987 better than for that of the previous winter. They have increased the availability of housing for animals and the level of mechanization of labor-consuming operations in these facilities, and they have introduced new feed shops into operation. Most importantly, they have supplied livestock with feeds better than ever before; moreover, good-quality hay, haylage and silage have been procured.

Almost all growth in livestock production output is to come from increased productivity of livestock and poultry. Right now, when the average annual milk yield per cow has neared the 3,000 kilogram level in most enterprises, it is essential to strengthen breeding work on farms and to become stricter in

the selection of calves for replenishing the basic herd. A radical improvement in the entire complex of zootechnical and veterinary operations with regard to the quality improvement of the herd and to improving its reproduction and production functions is required.

The state agro-industrial committees of union and autonomous republics, the agro-industrial committees of krays and oblasts, rayon agro-industrial associations, agricultural combines, kolkhozes and sovkhozes must demonstrate special concern for increasing the supply of meat resources in the country. Today we have a sufficiently large herd of cattle and of female poultry; these animals have adequate facilities and feed. Now it is important to organize works in such a way as to produce as much progeny as possible and to achieve growth in the meat and dairy productivity of animals.

Last year many enterprises achieved growth in milk yield per cow of 120-150 kilograms, the live weight of one calf being sold increased by 20-30 kilograms and the average daily weight gain per hog increased by 40-60 grams. These positive results should be further strengthened and developed.

The plan for 1987 calls for considerable growth in the production of commercial products by the APK. The production of food products by industry is foreseen in a volume determined by the five-year plan. In comparison to the achieved level there is to be significant growth in the production of granulated sugar from beets, vegetable oil and canned fruits and vegetables. The output of potato products, confectionery goods, margarine, non-alcoholic beverages, animal fats, cheeses and especially of whole milk products and food products for children will increase. In order to satisfy demand by the population it is planned to increase the production of high quality flour at a forestalling rate--to increase its volume by 8.8 percent as compared to the 2.2 percent growth in total volume of quality flour. The output of groats, fish catches and the procurement of other ocean products will increase.

About 56 billion rubles are being allocated for the development of the branches of the agro-industrial complex.

Considerable changes have been made in investment policy. Priority is being given to solving urgent problems related to the social development of the village. One third of all capital investments will be used for this purpose throughout the USSR Gosagroprom system.

Within the structure of investments for production purposes the share of capital being directed into renovation, technical reequipping and the expansion of enterprises of the processing industry as well as into the building of storage sites for products is increasing. The introduction into operation of storehouses for potatoes and fruit and vegetable products will increase by 25 percent, of freezers--by 32 percent and of storehouses for chemicalization agents--by 16 percent.

In the country work on the renovation of irrigation and drainage systems will begin on a significant scale. In the course of the year it is planned to

introduce 659,000 hectares of irrigated land and 708,000 hectares of drained lands into operation.

In 1987 the agro-industrial complex will receive 392,000 tractors, 329,000 trucks, 342,000 tractor trailers, 21,500 excavators, 23,000 bulldozers and a great deal of other technology and equipment. Kolkhozes and sovkhoses will receive farming machinery worth 4.67 million rubles and machinery for livestock raising worth 3.39 million rubles, 27.4 million tons of mineral fertilizers (translated into terms of 100-percent nutrient content), 1,020,000 tons of chemical feed supplements and 378,000 tons of plant-protection agents.

However, it should be kept in mind that already now the agro-industrial complex has at its disposal a very significant production and scientific potential. Its production capital equals 447 billion rubles. Functioning within it are about 50,000 large agricultural enterprises, over 30,000 enterprises and organizations of the food industry and the building industry and almost 1,000 scientific institutions. For this reason a task of priority importance is that of achieving growth in the return on resources available to the APK and of efficiently utilizing all supplementary allocations by the state for the purpose of strengthening the APK's material-technical base. This is what must receive the most attention during the elaboration of annual plans in enterprises, industrial enterprises and the RAPO.

The principle special feature of the plan for the second year of the 12th Five-Year Plan is the thorough working out of questions dealing with scientific and technical progress. The necessary monetary resources are being allocated for this purpose.

In addition to the introduction of intensive technologies in farming it is also planned to assimilate new methods in livestock raising. We are speaking about Holsteinization in dairy farming, about the extensive use of the hybridization method in hog raising and about increasing the level of complex mechanization of farm operations. There will be significant growth in the volume of stored agricultural raw materials and products using the latest technological schemes.

In enterprises of the confectionery, margarine, meat and dairy industries the output of new types of products will be assimilated and the processing of raw materials will be increased. In the meat industry the output of commodity product per ton of processed slaughter weight of livestock will increase from 1,584 to 1,620 rubles; in the dairy industry--from 234 to 243 rubles per ton of milk. The yield of sugar from sugar beet roots is to be increased by 0.7 percent, and of oil from sunflower seed--by 0.65 percent.

1987 is a special year in the activities of the agronomist. We must fully assimilate all links of the new economic mechanism of management, which places a great responsibility on directors and specialists already during the plan-development stage at the republic, kray, oblast, rayon and especially at the farm, enterprise and organization level.

The current economic mechanism is directed at the overall strengthening and development of commodity-monetary relations, at the introduction of complete

cost accounting and at the transition of enterprises to self-financing and self-supporting production [samookupayemost]. On all levels of management of the agro-industrial complex we should decisively reject administrative methods of management. It is essential to create all the opportunities for workers to allow them to demonstrate independence and initiative, managerial flexibility and socialist enterprise by extensively utilizing factors such as reimbursement of labor and new forms of labor organization, scientifically-based plans of equal intensiveness, technical-economic norms, prime cost, price, credit and profits in order to raise the material interest of workers. It is in this that we find the creative use of Leninist approaches in the course of improving management methods.

First of all we must secure a new order for planning state procurement of agricultural products. The procurement plan should be assigned according to norms developed on the basis of the quality of the land and of the supply of production capital and other resources. After the fulfillment of firm procurement plans the remainder of the product should be at the disposal of the enterprise, which has the right to utilize it for intra-enterprise needs or to sell it at a kolkhoz market or in consumers' cooperatives at higher prices. As for potatoes and fruit and vegetable products, this right is extended to a portion (up to 30 percent) of the planned volume. If enterprises utilize their rights fully, they can sell over 4 million tons of potatoes, about 6 million tons of vegetables and almost 2 million tons of fruit and grapes through these channels. In this case their additional profits will comprise 5-7 billion rubles annually.

During planning it is important to more fully consider the interests of oblasts and krais. Right now they are given plans for the delivery of meat, milk, potatoes and other products into union and republic funds but they themselves determine the volume of sales of these products to the state. Thus, the more the republic, kray or oblast produces of a particular product, the more food it will have left for local consumption after providing the supplies for centralized funds. And if a particular region experiences a shortage of a particular food produced locally, then it will have to take measures locally to correct the deficit.

When developing plans it is essential to consider the changing conditions of incentives. Presently their purpose is to stimulate the growth of production and the overfulfillment of plans. A 100-percent supplement (instead of 50-percent) to procurement prices for surpassing the achieved level of grain procurement has been established for enterprises which have fulfilled the plan for grain sales to the state. According to calculations, this can provide kolkhozes and sovkhozes with over 1 billion rubles of additional income. Elevated norms for supplying mixed feeds of sugar beet, sunflower and soy products to the state have been introduced. A basically new form of incentives has appeared--the counter-sale of materials in short supply to enterprises which have overfulfilled the plan for grain procurement.

We must assimilate a new system for planning the wage fund. Now its size will be determined by enterprises themselves according to stable norms calculated on the basis of 100 rubles of products sold instead of being assigned from above, as was previously done. Consequently, the enterprise's collective must

now earn its wage fund; moreover, its entire economy remains at the disposal of the enterprise, and overexpenditures must also be covered by the enterprise itself. In all kolkhozes and sovkhoses the wages of directors and specialists should be based on production.

It is essential to take measures for the widespread transition to reimbursement for labor out of gross income. This kind of experience has been accumulated by many of the country's kolkhozes and sovkhoses. Wages have been developed according to this principle since 1975 in Kazminskiy Kolkhoz of Stavropol Kray. Here norms have been established with regard to deductions for wages for all types of products. Each production subdivision is interested in producing as much production as possible, thereby decreasing expenditures per unit of production. What does this yield? During the 11th Five-Year Plan, for example, gross income increased by 50 percent and labor productivity--by 65 percent in Kazminskiy Kolkhoz. The kolkhoz is a highly profitable enterprise; its total profitability equals 78 percent.

When developing cost accounting assignments for brigades, farms and links it is important to strengthen contract forms of labor organization and to more closely tie contracts to cost accounting. The contract agreement should be strengthened by the allocation of the necessary resources. We must achieve stability of cadres in contract collectives and correctly establish wage payments for labor. Here it is especially important to utilize natural payments in full measure. Today it has been determined that 25 percent of production obtained above the volume established in the contract can be given to the contract collective by the enterprise as an incentive for highly productive labor. We must more boldly practice the forms of family and individual contracts which, as practical experience shows, are most effective for the cultivation of labor-intensive crops, for servicing livestock on small farms and for sheep raising.

It is important from the first days of the current year to have the counter-expenditure mechanism in effect. The plan level of expenses based on a unit of production must be completely justified. The collectives of production subdivisions in kolkhozes and sovkhoses should compete for economizing on direct expenditures at a rate of up to 70 percent of the achieved savings. At the same time these collectives must understand precisely that if they exceed the plan level of expenditures the overexpenditure will be replaced by means of resources allocated to them for wages and bonuses.

The purpose of the new system for planning, economic incentives, wages and labor organization is to raise the effectiveness of work of kolkhozes and sovkhoses, to decrease the prime cost of production and to increase profits.

Expenditures must correspond strictly to income. During the development of the financial plan enterprises must correctly distribute their income into the consumption fund and the fund for production expansion. In order to cover the shortage of capital needed for ongoing and capital expenditures it is possible to utilize bank credit, but this loan money must be returned on schedule. Self-financing means securing expanded reproduction by means of the utilization of the enterprise's own capital.

The decisions of the 27th CPSU Congress and the agricultural policies developed by the party according to contemporary circumstances have created fundamentally new conditions for the restructuring of all production relations within the agro-industrial complex. Directors and specialists have been given great opportunities for creative work and enterprise. At the same time there is increased responsibility with regard to the level of management, to fulfilling state plans and to supplying the population with food products. This in turn requires the serious restructuring of work of all planning-economic and financial-accounting services of the APK. Their operations can be improved only after organizing the economic education of cadres well. This must encompass all specialists--agronomists, zootechnologists, engineers and builders. It is essential to organize things in such a way as to have each economic decision made on the basis of economic expediency. For example, let us take the introduction of intensive technology. Calculations show that if growth in the grain harvest from the utilization of this technology does not equal 6 quintals per hectare, then additional expenditures for fertilizer, plant-protection agents and other expenditures will not be reimbursed and moreover, the enterprise will bear a loss. Agronomists, link leaders and machine operators must understand this well and must further growth of production effectiveness through their actions.

It is in this way that the directors of Rodina Kolkhoz of Vologodskiy Rayon, Vologda Oblast, Kolkhoz imeni Frunze of Belgorodskiy Rayon, Belgorod Oblast, Kolkhoz imeni Lenin of Zernogradskiy Rayon, Rostov Oblast, Zhuravskiy Sovkhoz of Chernigov Oblast, 30 Let Oktyabrya Sovkhoz of Chimkent Oblast, Sovkhoz imeni Lenin of the Estonian SSR and a number of others act. Using these enterprises as an example it is essential to train cadres and to inculcate in them the practical experience of zealous management and scientifically-based planning.

A well-developed plan is only the beginning of creative work. Every local collective must see a specific program of action in it in order to secure well-paced work on fields, in farms, in shops and in production sections while widely utilizing the possibilities it has at its disposal. It must work not only to fulfill but also to considerably surpass plan indicators.

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## AGRO-ECONOMICS, POLICY, ORGANIZATION

### VASKhNIL SCIENTIST ON UKRAINIAN AGROPROM DEVELOPMENT

Kiev SILSKI VISTI in Ukrainian 7 Sept 86 pp 2-3

[Article, published under the heading: "Discussions on Sociopolitical Topics," by V. Yurchishin, corresponding member, All-Union Academy of Agricultural Sciences: "Agroprom Priorities"; first two paragraphs are SILSKI VISTI introduction]

[Text] The 27th CPSU Congress specified solving the food problem as primary among this country's economic and social development tasks. We must change the socioeconomic situation in the village and create conditions for guaranteed food production.

The aggregate of components of this problem is very substantial, and all component parts are important. Some of these components, however, determine the priorities of the agro-industrial complex, to the implementation of which organizational, economic, management, social, legal, and other measures at all levels of governmental and economic administration are subordinated.

It is not possible to examine in a single article all aspects of the APK [Agro-industrial Complex -- AIC] priorities. I shall therefore discuss only certain specific aspects, such as deepening of the organizational-economic unity of the agro-industrial complex, efficient utilization of its production potential, adoption of advanced forms of organization of labor and labor incentive, increasing stability of production, and enhancement of the role of the human factor.

In order to ensure organizational-economic unity of the AIC, there must be a planned, orderly directional thrust of the entire system of management and administration of this complex, transformation of the AIC into a unified planning, financing, and management entity. This need has become more urgent in connection with the fact that a growing interdependence of the branches and sectors of the AIC and their commonality as regards end tasks have to an ever increasing degree made it necessary to view it as a unified production-economic mechanism. Until recently the transition from acknowledging the importance of this problem to practical actions to resolve it was being impeded by the excessive ministerial disconnectedness of the AIC and deficiencies in production-management interlinkages and economic relations among the partner entities in this complex. The search for possibilities of

solving the problem, which began with the May (1982) CPSU Central Committee Plenum, made it possible to specify fairly well-substantiated ways to ensure unity of the AIC. In an organizational respect this is being implemented through USSR Gosagroprom and its territorial agencies, and in an economic respect -- through the new economic mechanism of management and its heart -- innovative utilization of the Leninist idea of food tax applied to present-day conditions.

Although not much time has passed since transition to the new forms and methods of economic management, the majority of which, in addition, are only now being mastered, there is every reason to conclude that effective means of achieving efficient solution to the problems of the AIC have been found. Acceleration of the rate of development of the complex in the first half of this year in comparison with the corresponding period of last year constitutes evidence of this. For example, on the kolkhozes, sovkhozes, and at the interfarm enterprises of our republic, production of meat and eggs has increased by 8 percent and milk production by 4 percent, primarily by increasing the productivity of animal husbandry, which has made it possible to improve supply of these products to the public. The food processing branches of industry have for the most part achieved targeted output of food products.

Achieving the targets of the Food Program is directly dependent on completeness and effectiveness of utilization of the production potential of the AIC. In the CPSU Central Committee and USSR Council of Ministers decree entitled "On Further Improving the Economic Mechanism of Management in This Country's Agro-industrial Complex," this potential is viewed as one of the most important factors in accelerating the pace of production growth, improving product quality, and achieving fuller satisfaction of the public's food requirements and the processing industry's raw materials needs. The considerable production potential of our republic's AIC is indicated by the fact that the value of fixed productive assets in the public sector of agriculture exceeds 53 billion rubles. The material and technical foundation for procurement and processing of agricultural products is growing stronger. Increase in capital intensiveness and capital-output ratio, improved level of education and professional qualifications of personnel -- these and other factors are creating realistic preconditions for accelerating growth and development of this complex, improving its branch structure, and improving qualitative indices.

The task consists in achieving gradual intensification in all domains of the complex and, in the final analysis, increasing efficiency and expanding the scope of production -- on the basis of utilizing advances in science and technology, further improvement of management and organization of production, deepening of economic-accountability relations, adoption of advanced technologies in all branches, achieving economies in production resources, and prevention of losses of raw materials and product at all stages of production processing and movement to the end consumer.

The CPSU Program emphasizes the special importance of the innovative content and collectivist nature of labor, improvement in the level of sophistication of labor, and incentive to perform highly-skilled and highly-productive work for the benefit of society. An important role in accomplishing this should be

played by advanced forms of organization of labor and labor remuneration. The organizational, economic and social measures taken toward this end consist essentially in increasing the democratic nature of management, in making workforces and their primary elements full-fledged masters of production, in ensuring their moral and material incentive to perform highly-efficient labor, at the same time increasing their responsibility for the end results of production, and in creating the preconditions for forming and shaping the consciousness and psychology of all workers without exception for ensuring a sufficiently strong unity of public, group, and individual interests.

As experience indicates, this is achieved most fully when production is organized on the principles of the collective contract, since it ensures an innovative attitude by people toward their work as well as efficient utilization of the land, livestock, and equipment placed at their disposal. The contract is grounded on production based on principles of economic accountability and a directional thrust toward good economic management, which in turn is the most important condition for material incentive based on end results. All this as an aggregate ensures a high degree of effectiveness of the collective contract. We should like to cite the following fact: 39.2 percent of this republic's kolkhoz farmers and sovkhos workers who were members of contract teams last year produced 56.1 percent of gross output. In other words, labor productivity (calculated as production per worker) on contract teams was greater by a factor of 1.4 than in other kolkhoz and sovkhos structural subdivisions.

This resulted in an increase in the number of contract teams this year. At the same time attention is being devoted to improving their work, labor remuneration, and deepening economic accountability. Such forms of contract as the personal and family contract are being developed, as well as putting kolkhozes and sovkhos on a contract basis. All production subunits of agricultural, processing and other enterprises are to transition to a collective contract and cost accountability.

One of the most important tasks of the AIC is achievement of a steady growth in agricultural production, which should ensure continuous operation of the procurement and processing branches. The problem of stability of production is thus a general problem for the entire agro-industrial domain. It takes on particular importance in grain farming.

The CPSU Central Committee and USSR Council of Ministers decree entitled "On Measures to Increase Stability of This Country's Grain Production and to Increase Grain and Livestock Feed Resources in the 12th Five-Year Plan" points to the increased economic and sociopolitical significance of the grain problem and substantiates specific means of resolving this problem -- all-out acceleration of intensification of agriculture, sequential adoption of scientifically substantiated systems of farming, increasing soil fertility, combating erosion, increasing the effectiveness of fallow acreage, and substantial improvement in utilization of agriculture's material and technological foundation. This includes preventing grain losses at all stages of production and efficient utilization of grain resources.

The problem of cadres, the problem of man at the broadest level will assume top priority in highly-efficient development of the AIC. Failure adequately to appreciate or insufficiently effective solution of the problem can nullify even the most highly-substantiated measures. Precisely for this reason an aggregate of social and psychological aspects joined under the category of "human factor" is taking on particular importance today. Many articles and scholarly studies have been written on this subject. I shall mention just one factor, the creation of favorable social conditions in which the rural population lives and works, and increasing moral and material incentive for all working people. Their importance cannot be overemphasized. Nor should one ignore other, no less important sociopsychological aspects, especially the fact that the higher the workers' level of general and specialized education becomes, the greater the need to consider their personal traits and personalities. This is why profound knowledge of the fundamentals of management psychology and the ability to interact with people in specific conditions are mandatory for managers and specialist personnel at all levels. It is very important to take this into consideration in the process of training and advanced training of managers and specialist personnel.

Resolution of these and other crucial problems of development of the AIC is grounded on a common foundation for the entire economy -- its acceleration on the basis of scientific and technological advance. A clear-cut reply on ways to resolve the problem of acceleration was given at the 27th CPSU Congress and June (1986) CPSU Central Committee Plenum. The main thing is total and profound restructuring of all aspects of thinking and practical activity. Each of us must start with ourselves in this matter.

Deepening of economic and, more precisely, socioeconomic thinking is one of the most important elements of restructuring. This applies first and foremost to every worker, manager, and specialist without exception. Such thinking signifies the ability to evaluate decisions and actions not only from the standpoint of immediate but also future economic and sociopsychological return. Precisely such thinking guarantees against mistakes, or at the very least diminishes their negative consequences. For this reason it is no exaggeration to state that it is high time for universal economics education. And the sooner and better it is accomplished, the faster those problems occurring in the agro-industrial complex will be solved.

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## AGRO-ECONOMICS, POLICY, ORGANIZATION

### MORE EFFECTIVE AGROPROM RESOURCE USE SOUGHT

Moscow PRAVDA in Russian 27 Feb 87 p. 1

[Editorial: "Potential of the Agroprom [Agro-Industrial Committee]: Utilizing Village Resources More Effectively"]

[Text] The signs of spring are more and more noticeable in field camps and machine yards. From day to day the amount of repaired equipment and readied seed grows. Having noticeably improved their work during the first year of the five-year plan, agroprom workers intend to move farther. The possibility for increasing the return on fields and farms and for strengthening the economy exists everywhere.

The January 1987 Plenum of the CPSU Central Committee focused attention on the steadfast growth in the role of intensive factors in developing the economy. An enormous potential has been developed in the APK [Agro-Industrial Complex]. To utilize it skilfully and knowledgeably--these are the priority concerns of village workers and their partners.

Under the conditions of a single agroprom resources must "work" even more effectively. During the last five-year plan the capital-labor ratio increased by 43 percent in the village. Substantial corrections are being made in investment policy. Large investments are being made in the social sphere as well as in the processing branches, especially for the renovation of existing enterprises. These and other measures have enabled us to achieve a perceptible increase in production output. Last year labor productivity increased by almost 7 percent, profits have increased and expenditures have decreased.

Still, the increased possibilities are not being utilized fully by far. This must be discussed today completely realistically because 6,000 kolkhozes and sovkhoses completed the past year unprofitably. Although there are fewer lagging enterprises there has been no radical change in the use of resource potential. In many enterprises the productivity of lands and farms is low. Product losses are great. Reclaimed lands are not yielding the necessary return. Livestock-raising complexes often make just half an effort, especially in a number of enterprises of Azerbaijan, Turkmenia and the Kirghiz. Directors and specialists whose primary efforts are directed at

acquiring more resources but for whom concern about utilizing them efficiently is the last priority have not been transferred.

It was noted at the recent meeting of the CPSU Central Committee on agroprom problems that the supreme task is to utilize fully the potential that has been developed in the village. How can we make sure that resources do not remain as dead capital but that they truly serve the field and farm?

The transition to economic management methods has been noted everywhere. But those who like to be in charge and be a part of an administration to the detriment of the job at hand still have not been transferred. Paralyzing the independence of labor collectives, some rayon and oblast directors continue to assign crop structure, herd size, and work schedule and "beat out" above-plan production from kolkhozes and sovkhoses in order to fill out victorious reports. Under such conditions can one consider himself to be the genuine master of production? The responsibility of an individual for the end results is thereby decreased.

The agroprom's economic mechanism is being fundamentally restructured. Its cost-accounting and normative base opens the door for intensive methods, enterprise and initiative. However, one must have skilful mastery over the controls of the new mechanism and utilize the norms in a qualified manner. In some places the norms are used to plan decreased production of milk, meat, grains and groat crops. This is not the way to understand the concept of independence. We must improve interbranch ties and organize mutually-advantageous economic ties among kolkhozes, sovkhoses and service and processing enterprises and consumers' cooperatives.

Departmental interests continue to sometimes take precedence over general national interests. A great deal remains to be done to improve the organization of financing and to strengthen the payment discipline of the APK.

At the January Plenum of the CPSU Central Committee it was noted that restructuring has stirred up all the healthy strengths of society. The human factor has become the decisive one in the economy. People are striving to actively participate in production management. We must have a situation in which every worker is constantly concerned about the careful and efficient use of resources in his workplace--the field or the farm. We also need noticeable incentives and an organization of things so that an economic, interested attitude toward public property becomes the norm. As noted at the 18th Congress of USSR Trade Unions, we need a new approach to conceptualizing the role of the labor collective both in society, including in the economic sphere, as well as in the life of every Soviet citizen.

It would seem that the advantages of collective contracts are indisputable. In independent brigades and links labor productivity is higher, products are less expensive and discipline is higher.

Still there are often cases in which contracts are assimilated formally, frequently without cost accounting. Many enterprises of Armenia and Dzhambul and Irkutsk oblasts underestimate the role of "independents." In agreements with the administration no stipulations are made concerning responsibility for

the expenditure of resources. Wages taken out of gross income, which enables us to closely link earnings to the level of expenditures for production, are being introduced extremely slowly. Sometimes the contractual collective is not allowed to exhibit independence. Even joint earnings are often distributed without the participation of the brigade or link. It is clear that the potential of family and individual contracts is utilized inadequately.

The question of having administrative organs make a transition to cost accounting has become urgent. Cost accounting is also important along "the horizontal plane"--in interrelations between sovkhozes and kolkhozes and their partners on the basis of mutual economic interests. The transition to self-financing will indisputably increase the responsibility of enterprises for the utilization of resources. This year 23 percent of kolkhozes and sovkhozes plan to fully carry out expanded reproduction by utilizing their own capital. We must remove all barriers to self-financing, reward collectives which strive to strengthen the economies of their enterprises and help them to organize genuine cost accounting.

Restructuring shows us the role and place of organs of the APK administration more and more distinctly. It is not with individual technological operations (this is the realm of competency of directors and specialists of enterprises) that rayon and oblast agroproms should concern themselves. Their main concerns are the economy, educating cadres, the introduction of innovations, social questions and achieving proportion in and systematization of APK development. For the RAPO the most important thing is to have each kolkhoz and sovkhoz discover its potential and to make sure that everything it produces reaches the consumer's table.

The style and methods of management are changing radically within the agroprom. But this is not among the easiest of processes. There still exists the habit of operating not through people but in the old manner--through paper.

Almost 3 million communists work in the village. In order to take a large step forward in increasing production we must raise the level of party leadership in the APK. The key tasks of village party organizations include the proper distribution of cadres, support, aid and strict demandingness of those who are slow to change. Soviets of people's deputies and trade union organizations are being called upon to respond in a business-like manner to the requests of people and to deal in a timely manner with social questions. The stabilization of cadres and an improvement in the standard of living of agroprom workers will be facilitated by bringing order to trade and municipal services and by the building of housing and roads.

Farmers and livestock farmers must achieve high goals during the second year of the five-year plan. In particular, it is planned to increase grain yield to 232 million tons and to increase the output of farm products by 16 percent. All the conditions exist for village workers and their partners to implement these plans. The potential of the agroprom must result in a weighty return.

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## AGRO-ECONOMICS, POLICY, ORGANIZATION

### BSSR GOSAGROPROM HEAD INTERVIEWED ON APK PERFORMANCE

Moscow IZVESTIYA in Russian 27 Feb 87 p 2

[Interview with Yuriy Minivalich Khusainov, First Deputy Chairman of the BSSR Council of Ministers and Chairman of BSSR Gosagroprom [State Agro-Industrial Committee] by N. Matukovskiy, IZVESTIYA correspondent for the Belorussian SSR: "Time for Decisions and Action"; first paragraph is source introduction]

[Text]--Minsk--The economic mechanism has begun to operate within the agroprom [agro-industrial committee]. Today our task is to utilize its enormous economic potential more fully. Are we always able to accomplish this? If not, why not? This is the topic under discussion between our correspondent in the Belorussian SSR, N. Matukovskiy and the First Deputy Chairman of the BSSR Council of Ministers and Chairman of BSSR Gosagroprom, Yu. M. Kusainov.

[Question] Yuriy Minivalich, I met with you a year ago. At that time you told me about the type of agro-industrial complex that was developed in the republic and what it will be involved in. A year has passed. Has everything that was planned been accomplished? Was it done in the way you had hoped? And most importantly, has the agroprom given all that you expected of it?

[Answer] Of course a considerable amount has been done. The management structure has been determined and the principle questions dealing with improving the economic mechanism have been and are being decided. Within the production and service spheres more effective technologies and production methods are being adopted. I cannot yet say that the Gosagrprom apparatus has been developed to perfection. But judge for yourselves. Eighty six surplus links have been eliminated. The management apparatus on the republic and oblast levels has been decreased by 36 percent; on the rayon level--by 25 percent. More specifically, the total number of workers within the apparatus at all levels has been decreased by almost 4,000 persons.

[Question] But it is said that there is more paperwork.

[Answer] Who says that? In 1985 the ministries and departments belonging to Gosagroprom issued 72,000 papers, whereas last year Gosagroprom issued 35,000. This is less, but not little. In 1985 there were 110 board meetings; in 1986--16. Can you see the difference? The management style has become more business-like and efficient, although we are extremely concerned that many

specialists of rayon agro-industrial associations still continue to write a large number of various reports and that when they go out into enterprises they play the role of investigators rather than that of technologists and organizers of production.

Last time we spoke a great deal about scientific support for agricultural production. What has been accomplished in a year? Workers of scientific-research institutes have been certified. This showed the low work results of 20 structural subdivisions. Some were reoriented and some were simply eliminated. The research themes for both institutes and test stations have been made more precise. In order to curtail research time, scientific cadres and financial resources are being concentrated in the same collectives headed by one of the directors of the lead NII [Scientific Research Institute]. There is yet another innovation. Whereas previously scientific institutions were financed, beginning this year programs such as "Grain," "Potatoes," "Flax," "Dairy Farming," and "Feeds" will be financed.

In other words, we are concentrating our efforts and resources, which previously were divided by interdepartmental barriers and thus could not be used effectively. For example, the Scientific Research and Construction-Technological Institute of the Meat and Dairy Industry and a scientific-production association for sugar beets have been created on the basis of several departments. Recently a single Main Information-Computer Center for Gosagroprom was organized, again on the basis of different subdivisions. Should I mention everything that has been done?

[Question] That is probably not necessary. From what you have said it is already clear that restructuring is taking place. I understand that in just one year it is difficult to achieve great economic effectiveness, but still...

[Answer] We can speak only of initial results. But they attest to the enormous potential that is found within the agro-industrial complex. During the year (and what kind of year?--an organizational one) gross agricultural production increased by over 8.5 percent, and 1 percent is equivalent to 91 million rubles. Production expenditures have been curtailed by 350 million rubles. The prime cost of production has been decreased considerably.

[Question] But I would like to move on to the "uncomfortable" part of our conversation. What are you, as the chairman of the republic's agroprom, most concerned about today?

[Answer] I am concerned about many things. First of all, the process of restructuring is not over yet. Inertia in the thinking of cadres remains at all levels. Administrative-allocation activities prevail over the use of economic controls in production development. There are still too many "directors." This is especially true for the rayon link, where as before they like to be in command and to give orders.

[Question] What about cost accounting [khozraschet]? Collective contracts, which are already recognized by everyone as the best method for organizing production and labor, look good from the outside. As far as I know, 83 percent of machine operators and 72 percent of livestock farmers in the

republic now work according to collective contracts. They cultivate 90 percent of the arable land and take care of 82 percent of the cows, 62 percent of the calves and 56 percent of the hogs. Sixty percent of feed root crops and almost the same proportion of sugar beets are cultivated on the principle of family contracts. Is this good, Yuriy Minivalich?

[Answer] This is bad, because there is still a great deal of formalism in cost accounting and collective contracts. Often cost accounting is limited by the making of assignments. After all, the collective contract implies a mutual responsibility. So the administration does not always by far supply contract collectives with equipment, feeds, plant-protection agents and so forth. Democratic principles of management are violated and administration by means of orders and decrees is in evidence. In addition, there is a lack of coordination in the formation of the wage fund during the transition to reimbursing labor from gross income. Enterprises are not making contributions to the wage fund, which has been released from control from above--today it is lower than the 1986 levels. The principle of creating a wage fund according to stable norms using the volume of (gross) production sold is being violated.

[Question] As far as I understand, all, or almost all of these problems are "yours." You can solve them successfully, if not in the Gosagroprom, then in the republic administration. But there are problems, the solution to which depends on USSR Gosagroprom. Do you always find understanding and support there?

[Answer] In order to strengthen cost accounting relations USSR Gosagroprom must centrally develop a single, strict normative methodology for allocating material resources. This does not exist as of yet. Production plans do not correspond to material supplies. Thus, in 1987 we will receive fewer tractors, trucks and equipment for the mechanization of livestock raising facilities. The limits being placed on building organizations are also larger. We are planning to increase production output, yet we are receiving fewer material supplies!

Or let us look at another problem--regulation from above. For example, USSR Gosagroprom has planned the restoration of parts in agricultural technology to the smallest detail--the nomenclature includes 106 items. Why? After all, the restoration of parts is not a goal in itself. What specifically must be restored and how should be decided by republics, oblasts and rayons.

And here is another strange position of USSR Gosagroprom. It promised to provide 36 automobiles and 52 buses as an incentive to enterprises to achieve above-plan grain sales. When the republic's agroprom summarized the results of the competition and named the victor, USSR Gosagroprom renigged on its promise. It proposed that we use our own funds to provide the bonus.

[Question] And what are the principles being adhered to now in the planning of procurement for union and republic funds? Are the interests of the enterprise stimulated by the fact that it can utilize remaining products locally at its own discretion?

[Answer] Beginning in 1987 the plan for state procurement of livestock, poultry, milk, eggs, potatoes, vegetables, fruit and berries will not be assigned to oblasts. Firm quotas have been established by year of the five-year plan for delivery of products into the general union and republic funds. Rayons and enterprises have been assigned firm plans for product procurement by year based on an economic evaluation of the land and the supply of production capital and manpower. And as to the second part of the question, I can answer in the affirmative. The oblast executive committee has been given the right, after the fulfillment of the plans for delivery into general union and republic funds, to retain all of the extra meat, milk and other products. Here is a specific example.

In Brest Oblast the plan for delivery into union and republic funds is as follows: meat--86,300 tons, milk--469,200 tons. The procurement plan, and we consider it to be realistic, is: meat--129,100 tons (slaughter weight) and milk--850,000 tons. In this case the oblast retains 42,800 tons of meat and 380,800 tons of milk, which surpasses 1986 levels for meat by 8 percent and for milk by 10.8 percent. It is said that figures are a sad matter. But, look, this is not the case. I will add that all above-plan production also remains on its own territory. Isn't this an incentive?

[Question] It would seem that with the creation of a single agro-industrial complex there would be no departmental separateness or economic isolation of branches. But these do exist. Why is it that it is still difficult to "unite" the partners of farming into a single network?

[Answer] I will say immediately that wages of directors and specialists, of service enterprises and agroprom organs have already been made directly dependent on the end result. It would seem that the most important thing has been done. What hinders the creation of a "single network" and the goal of working toward one result is the fact that right now only a mechanical intermingling of branches of the processing industry, service branches and agriculture has occurred. The new style and new work methods in a "common house" have not yet developed. We intend and hope to solve this problem soon.

We are trying to put economic controls into effect more rapidly and to make wages directly dependent upon the end result at all levels of management and production. This year as an experiment wages of the republic's Gosagroprom apparatus will also be paid out according to the amount of production output.

[Question] One last question. Often we hear the following statements. Hasn't the kolkhoz farmer begun to receive too much? Won't he become "spoiled" by a high wage? Aren't you disturbed by this?

[Answer] Not at all. The system for creating a wage fund per 100 rubles of products sold does not provide an opportunity to increase expenditures from the fund per unit of production. The amount of production determines the size of the fund. One's earnings depend upon how much one has worked. Today cost accounting and collective contracts and the check system of controlling expenditures are becoming the main "commanders". We are taking errors in this area into consideration and hope to eliminate them. Measures have been worked out regarding the transition of kolkhozes and sovkhoses to self-supporting

production [samookupayemost] and self-financing. We have established the goal of having each enterprise achieve expanded reproduction using its own capital already during this five-year plan.

I had the opportunity to participate in the January meeting of the CPSU Central Committee, during which the topic under discussion was the implementation of the resolution of the CPSU Central Committee, "On Urgent Measures to Increase Labor Productivity in Agriculture on the Basis of Introducing Efficient Forms of Labor Organization and Cost Accounting." It once again showed and convinced all of us about the great potential of the agroprom.

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## AGRO-ECONOMICS, POLICY, ORGANIZATION

### OUTPUT NORMS, QUALITY CONTROL IN CONTRACT SYSTEM EXAMINED

Moscow EKONOMICHESKAYA GAZETA in Russian No 4, Jan 87 p 10

[Article by Ye. Khodakovskiy, Head of the Economics Department at the Scientific Research Institute for Agriculture in the Non-Chernozem Zone: "The Contract, Standards and Quality"; first paragraph is source introduction]

[Text] With some sort of Midas touch, payment for satisfying a standard has come to be called "payment from the wheel." But how can this be the standard of completion when, after all, it's the basis of the plan.

The practices of recent years have convincingly demonstrated the high rate of efficiency of the contractual agreement both in agriculture and cattle raising. As noted in a recent decree of the CPSU Central Committee decree on increased labor productivity in agriculture, cost accounting [khozraschet] and contractual agreements have aroused great interest among machine operators, cattle breeders and other kolkhoz and sovkhov workers to look at the results of their own labor. Cost accounting and contractual agreements exert great influence on increasing social production efficiency.

All agree that the contract is meaningless without a cost accounting foundation. This means that when determining production tasks for this or that collective under contract, all cost accounting "instruments" must be used, in particular, technically substantiated production standards. Consequently, accounting and control for their fulfillment is needed. However, there are still managers and specialists of the opinion that the need for control over fulfillment of production standards during the course of a contract is waning.

Probably no one would begin to deny that the standard, one might say, is one of the components in the organization of production. Indeed, planning the work process and all technology, the development of current and long-range tasks, effective management, implementation of an accounting and control system and finally, the structure of cost accounting--all this in one way or another is linked to the production standards. They reflect the status of the soil and technology and the labor conditions.

And where's the acknowledged standard? It's in determining that "payment from the wheel" refers only to the amount of work completed and takes into account

some sort of average (accountable) quality. But this occurs at various levels: excellent, good (in conjunction with agro-technical requirements) and satisfactory (for accounting purposes). But meanwhile, the structure and extent of a final result completely depend on the quality of labor expended in the preparation of the soil, in sowing, tending the crops and harvesting, while in cattle breeding it is in organizing the care and feeding of the cattle.

We now know that even the slightest deviation from the technical standard, even some isolated technique, might lead to a decrease in harvest and cattle productivity. This is especially important under intensified technology where the derived harvest that was programmed is based on a strict adherence to established requirements.

On a contractual collective where the basic point of reference is the end result of production, all participants in the contract must consciously guarantee high quality work. Here each work item must be carried out scrupulously, that is, at the "excellent" level. But, unfortunately, such an "ideal" is still characteristic of only individual collectives.

On a majority of even the optimally sized sections and detachments, by virtue of age qualifications, education, psychological, moral and esthetic characteristics and a varying regard for labor, everyone will not be successful in achieving an excellent quality of completed work. Besides, there are even differences in the work to be done. One cannot, for example, equate harrowing with the placement of herbicides, ammonium hydroxide or insecticides.

In the pursuit for more efficient measures to increase control over the quality of labor and, based on this, more objective distribution over the final production result, several collectives under contract have turned down the unscheduled system of regular advances and accepted the piecework method of payment. But, as might be expected, the piecework method was not equal.

In the Gorokhovskiy Rayon (the base for introducing the collective contract in the Volynskaya Oblast), on some of the mechanized contract work detachments and crews payment is hourly while on others it is done by piecework. The average annual level of labor productivity (the cost of wholesale production per worker) amounted to 18,000 rubles for the first group, while it was 16,700 for the second. The inclination towards the piecework method of distribution is more characteristic of large organizations. This is natural. It is more difficult to track the quality of labor here. And besides, such organizations, that is, tractor crews and tractor and field brigades are widely dispersed. In the Non-Chernozem Zone of the Ukraine these brigades are made up of 21-35 machine operators and 22-47 manual laborers. They are assigned 930-1,710 hectares of plowed fields. Splitting these brigades into optimally numerical contract collectives is not possible everywhere in that, for years on end, they independently serve in complicated specialized production and in separate crop rotations. They have an overall repair base and facilities for social purposes.

Of course, such organizations that take on a collective contract have their own peculiarities. Here, in particular, it is difficult to use hourly wages. But at the same time, piecework payment is in opposition to the basic principles of a collective contract.

For just such subdivisions it would be more acceptable to have collective payment in the form of a unified job authorization. This payment is calculated for the entire subdivision based on the volume and quality of work completed in a specified production period. In our experiments the distribution of sums of a unified job authorization is done at a brigade meeting at which labor participation evaluations (OTU) or labor participation ratios (KTU) are taken into account. For the basic OTU we have taken completion of one standard shift of excellent quality mechanized work at the base rate for category four for wheel-type tractors. For caterpillar tractors the rating is 1.1. For completing a standard category four shift, the rating is 1.13, the fifth is rated at 1.13 and the sixth is 1.26. The third and second are correspondingly lower. Work under hazardous conditions is rated at 1.5.

The rate for machine repair work is determined by the collective. For violating one of the technological requirements of the OTU there is a decrease of 0.1, for two it is 0.2 and none is being proposed for more than two. The crew leader and members of the collective council control quality and accept the work, whereupon they are then guided by the established standards for the quality of work and manage the "Table of Quality," which was hung in the machine operators' day room.

Payment is for the final result and the savings of the means of production in conjunction with the labor participation ratings which have been derived during the production period (year).

In determining payment for a product, it is important to regulate such a fixed advance payment standard applicable to the distribution according to a unified schedule which might guarantee additional charges at the end of the year amounting to no less than one-third of the portion advanced. Our calculations show that the accepted standard for the Ukrainian forested zone amounts to 0.75-0.80 of the wage payment fund scale.

But this only refers to machine operators. Naturally, the existing instructions for the organization of a collective contract in plant growing has been directed towards machine operators primarily.

We often have this situation. A husband and wife work on a tractorized field work crew. He, the machine operator on contract, receives a regular advance. She, the field worker carrying out manual labor, is outside the contract. She is paid by the piecework method. But both often work in the same field to achieve the same end result. It is completely justifiable that, alongside the machine operator, not only field hands, but also the piecework mechanic, the lathe operator, the blacksmith, the electrician, the driver and even the specialist himself want to be part of the contract. But how do we compare the participation of each in the end result of production?

One such regular measurement of labor participation on many subdivisions under contract turned out to be inadequate. Therefore, economists maintain a parallel piecework account, not deviating from the existing performance standard. This "parallelism" provides for recommendations in the case of an "unsuccessful year." In the end each receives an additional payment that is the difference between piecework fees and the regularly calculated advanced sum.

The KTU system for regulating distributive rates under the current operating instructions is very imprecise or cumbersome. For example, the rate of increase in the KTU is from 0.1-0.5 for high labor productivity and the completion of more difficult tasks. (Which level should be taken by the crew chief, the work crew?). Why, there are six such articles on this already! And the conditions for lowering the KTU are in five.

It is very difficult, often impossible, in the course of a shift to "turn the wheel" for two or somehow even 1.5 technically substantiated, qualitatively completed standards. And then one ought not forget that the standard for qualitatively completed work "doesn't smell of piecework." After all, this essentially high-quality work materializes into large amounts and high-quality products.

The pay advanced at the mechanized work sections at the Kolkhoz Mayak in the Khmel'nitskaya Oblast, which is determined by accounting for the quality for a completed standard work shift, is based on a seminar which took place in the republic on collective contracts. Many farms and entire regions familiarized themselves with this experience. We should underscore that the Mayak contract is a "long time inhabitant" and is being undertaken not by small uncoordinated work crews, but by large mechanized subdivisions which service the crop rotations of integral productive plots. Operational control over the quality of work being carried out by the work section councils, lower advances in instances of deviations from the established requirements or violations of labor discipline exert great educational influence on members of the collective. Therefore, the kolkhoz machine operators' results are high and stable.

A complex means to measure the quality of the labor process for all conditions of the standard is possible only under laboratory conditions and very complicated as a practical matter. And what if we consider a violation of only one condition? A logically abstract method confirms that changing just one element involves a change of the entire system.

On the Mayak and other farms which have adopted the practices of this kolkhoz, work crew councils assign violations according to one condition. For one such offense, one's advance is decreased by 0.1, for two, by 0.2. For more than two conditions, or in the case of violations to the work discipline, the advance is not calculated.

Party documents often indicate the need to maintain strict control over the measure of labor, to intensify control by means of wages for the amount and

quality of work. In this regards, technically substantiated, high quality completed standards of work are not "retired." It's just the opposite. Under the new conditions for managing collectives, it will, in a new way, serve to speed things up on a national level.

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## MAJOR CROP PROGRESS, WEATHER REPORTS

### PREPARING FIELDS FOR PLANTING WINTER CROPS

Kiev SILSKI VISTI in Ukrainian 14 Sep 86 p 1

[Editorial: "Winter Crop Planting"]

[Excerpts] Nine million hectares in this republic are to be planted in winter crops. An intensive campaign is presently in full swing to produce a large grain harvest for the second year of the five-year plan. The farms in most oblasts are planting wheat and barley.

Farm workers have done a good job preparing for this year's important test of grain producing capability. Thanks to improved organizational work, predecessor crops were readied earlier than last year on more than a million hectares. Moisture-retaining procedures were applied to a much greater percentage of total acreage than last year. A great deal of work was accomplished in the area of going to improved varieties and heavily planting winter-crop acreage to high-yield area-tailored varieties capable of producing a strong, high-value kernel. Large-kernel seed has been shipped to the southern rayons of Dnepropetrovsk, Nikolayev, and Kherson oblasts, where as a consequence of drought the weight per thousand seed kernels proved low.

Far from all problems pertaining to the preparation schedule have been resolved, however. On a number of farms, particularly in Rovno, Lvov, and Chernovtsy oblasts, corn, flax, potatoes, and sugar beets have not yet been removed from fields which are to be planted to winter grain this fall. It is the obligation of party, soviet, and economic administrative agencies to display maximum management competence and to implement a more intensive timetable for bringing in the harvest and to organize around-the-clock preplant preparation of the soil.

The most important task in September is to seed winter crops on an optimal timetable. Many years of practical experience as well as scientific research have convincingly demonstrated that departure from an optimal timetable always leads to lower crop yields, and frequently it is necessary to oversow wheat and barley. For this reason those kolkhozes and sovkhoses which assign crop rotations or fields to contract teams are proceeding correctly.

This fall intensive-technology growing of wheat and barley will involve 4.5 million hectares. Practical experience of previous years in mastering this

advanced farming practice has shown that planting is an extremely important stage for the end result. Additional important factors include how much of what fertilizers have been applied, seeding depth, sowing timetable, field equipment pass routing, etc.

Planting does not forgive haste or carelessness. It is the obligation of party, trade union, and Komsomol organizations to assign experienced, knowledgeable farmers to this critical work. Rayon agroindustrial association agronomy services are called upon to conduct systematic verification of adherence to proper working procedures. This year particular attention, for example, is being devoted to preplant cutting of the soil with knife coulter. Therefore let us determine whether all knife coulter equipment is presently at work in the September fields. Is the planned amount of mineral fertilizers being applied? Are all farms drawing up schedules for organizing dispatcher monitoring to ensure adherence to progressive and traditional winter crop growing techniques? As the practical experience of leading farms in Lvov Oblast has shown, dispatcher or controller monitoring and verification is a sure way to achieve precise meeting of the requirements of grain growing procedures, and we should attach particular importance to adoption of this practice everywhere.

Winter-crop acreage represents our principal grain harvest. It should be our primary concern.

3024

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## MAJOR CROP PROGRESS, WEATHER REPORTS

### PREPARING SOIL IN UKRAINE FOR WINTER CROPS

Kiev SILSKI VISTI in Ukrainian 9 Aug 86 p 1

[Article, published under the heading "Timely Advice," by Candidate of Agricultural Sciences I. Pabat, director of soil cultivation laboratory, All-Union Scientific Research Institute for Corn: "Preparing the Soil for Winter Crops"]

[Excerpts] Thanks to abundant rains which have recently fallen throughout practically the entire republic, as well as early harvesting, exceptionally favorable conditions are being created for preparing the soil and planting winter crops.

The most important thing right now is to carry out an aggregate of measures to prepare the soil for winter crops following nonfallow predecessor crops, following the best farming practices, as well as care of bare and occupied fallow. This is an important precondition for obtaining plant emergence at the proper time.

Harrowing, which is particularly effective following rains, is employed to preserve moisture when caring for bare and occupied fallow. This also destroys weeds.

Procedures of preparing the soil for planting winter crops differ according to area conditions and predecessor crops. But a common requirement is creation of an even seedbed of soil of optimal compactness, with good soil granulation, capable of taking in and holding moisture and ensuring good sprouting.

Perennial grasses are worked with procedures which include stubble discing with BDT-7 or BD-10 implements in two passes with subsequent working with OPT-3.5 sweeps fit with disc coulters. To ensure uniform depth and good soil granulation, on heavy soils sweeps are ganged with BIG-3A harrows and ZKK-6 rollers. This process prevents grass aftergrowth, which is important for increasing reserves of soil moisture.

On slopes and heavy soils, working the soil with a knife coulter is a mandatory component. Cuts are made when preparing the soil or just before sowing, with a ShchP-3-70 knife coulter, to a depth of 40-45 centimeters, at 2-4 meter spacings. This procedure prevents the forming of an ice crust, the

pooling of water in "saucers," and ensures additional (up to 400 cubic meters per hectare) accumulation of soil moisture. Winter wheat yields in dry years increase by 6-8 quintals per hectare when such cuts are performed.

The above recommendations cannot be uniform for all zones throughout the republic or for the specific conditions of each farm. They will produce definite benefit if specialist personnel apply them innovatively, taking into consideration the specific features of each field.

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## MAJOR CROP PROGRESS, WEATHER REPORTS

## WINTER CROP SITUATION IN THE UKRAINE, CROP CARE ADVICE

Kiev SILSKI VISTI in Ukrainian 2 Oct 86 p 1

[Article, published under the heading "Timely Advice," by M. Rubets, chief, Plant Protection Administration, UkSSR Gosagroprom Ukrselkhozkhimiya Association, and M. Lisovyy, director, Ukrainian Scientific Research Institute for Plant Protection: "Health of Winter Grain"]

[Text] The foundation is presently being laid down for high winter crop yields by ensuring optimal density of plantings and good plant physiological condition.

On the farms of Vinnitsa, Poltava, Cherkassy, Nikolayev, Kirovograd, Kiev, and other oblasts, winter grains, especially planted after peas, are being damaged by winter moth caterpillars. Their average number is 0.2-10 per square meter. There is a greater threat from this pest on fields in which, after harvesting of predecessor crops, volunteer plants or weeds sprouted. In the Steppe zone and the southern part of the Forest-Steppe zone, grain carabids may also appreciably thin sprouting crops in areas which received considerable rainfall during September as well as on irrigated land where winter crops followed grains.

Due to low productive moisture reserves in the soil, and particularly in conditions of the Steppe zone, thinning of stands and weakening of plants may be caused by the Hessian fly, wheat fly, and Swedish fly. On the farms of Donetsk, Voroshilovgrad, Zaporozhye, Kiev, Khmelnytsky, Kharkov, Lvov, Odessa, and other oblasts, an inspection of winter crops made this spring revealed grass flies in numbers ranging from 2 to 14 per square meter. Plant damage was running 3-8 percent. A number of species of grass flies (Swedish and Opomyza) are projected to show a substantial growth in numbers. This should be taken into consideration in organizing countermeasures, especially on intensive-crop acreage. With rising temperature one should anticipate an increase in numbers of leafhoppers and greenbugs. Powdery mildew and root rot present the greatest threat.

After planting, chemical application is emphasized in combating insect pests and plant diseases. A mandatory condition for intelligent utilization of chemical methods of plant protection is regular, conscientious inspection of crops. The number of moth caterpillars and grain carabid larvae can be

determined by digging soil samples. Density of larvae holes can serve as a relative indicator of carabid population. The level of crop greenbug infestation is determined by carefully examining and calculating the number of pests on plants in a 25-centimeter section of a row at 12-16 locations in a field. At the same time such inspection of plants at the emergence-second leaf phase gives an idea of the level of crop infestation by leafhoppers. One should bear in mind that leafhoppers become active during warm, sunny weather, and some will fly off from under foot as one walks through a field. Beginning with the third-leaf phase, the number of leafhoppers, grass flies, and other insect pests is determined with an insect net (10 passes at each of five locations in the field).

Upon discovering cutworms in numbers of two or more per square meter and 1-2 or more grain carabid larvae (this level of infestation will be observed only following a predecessor grain crop), spray with 40 percent bazudin -- 2 kilograms of preparation per hectare, or volaton -- 2 kilograms per hectare, or 40 percent metaphos -- 0.8-1 kilogram per hectare.

Prior to plant emergence, poisoned bait consisting of cabbage, beet and rape greens, at a ratio of 1 ton of greens, 25 liters of water, and 400 grams of metaphos, is very effective against cutworms. A 12-percent GKhtsG dust (10-20 kilograms per hectare) is applied to crops during wind-calm weather when there is dew on the plants, to combat cutworms and grain carabids. Since cutworms show decreasing susceptibility to insecticides with age, thus diminishing the effectiveness of efforts to combat them, it is extremely important to do this as early as possible, before the caterpillar transitions to the fourth-fifth stage. It is also effective against leafhoppers and aphids.

On crops where insecticides have not been used, measures against aphids are begun when 30 percent of the plants are populated by 2-3 aphids per infested plant, or 4-5 grass flies per square meter. These pests may occur in large numbers particularly in crops planted early during an extended, relatively warm fall. Forty-percent metaphos and 40-percent phosphamide (BI-58) are recommended, at 0.5-0.7 and 0.7-1 kilogram of preparation per hectare respectively. Since all insecticides recommended to combat insect pests are insufficiently effective in cool weather, they should be applied on sunny days with the daytime temperature not below 10-15 degrees Celsius.

In order to prevent crops from being attacked by powdery mildew, root rot, and snow mold, at the first signs of these diseases, in conditions of a warm, relatively wet fall in the Polesye, Forest-Steppe, as well as on irrigated acreage in the Steppe zone, crops should be sprayed with fundozol or bayleton (0.5 kg per hectare). Fungicides should be applied first of all to crops planted at early, optimal times, crowded stands, and on low ground. One should bear in mind that it is not advisable to apply fungicides in the fall on acreage planted with seed treated with baytan or agrotsit (fundozol, benlat), since these seed treatment agents do an effective job of protecting plants against diseases throughout the entire fall. Farms should maintain a well-organized system of recording utilized seed treatment agents on all winter-crop acreage.

When insecticide and fungicide crop application times coincide, a tank mix of these preparations is prepared in the recommended proportions immediately prior to spraying. The spray application rate should be determined according to the fungicide constituent (approximately 300 liters per hectare when spraying with a tractor-mounted spray bar device).

Farm specialist personnel and managers must be warned against inefficient, unsystematic application of pesticides. There still occur instances of failure to keep a record of utilized seed treatment agents on crop rotation acreage, which greatly complicates correct application of fungicides in the fall. In a number of instances both specific pesticides and tank mixture constituents are selected without considering the state of plant health, and there is failure to observe proper rates of application of preparations and spray solution. This often leads to wasteful expenditure of material and labor resources, diminished effectiveness of protective measures, increased production cost, and aggravation of environmental protection problems.

To protect growing crops from mice, their habitats should be destroyed around haystacks and grainstacks, forest strips, and meadows. When colonies of these rodent pests are discovered in winter crops, grain bait poisoned with zinc phosphide or gliftor should be set out. Biological preparations based on the Isachenko bacterium are also effective, applied at two kilograms per hectare. From 2 to 3 grams of bait or biopreparation should be placed in each mouse hole.

Experience indicates that the effectiveness of measures to combat plant pests and diseases depends on timely, high-quality execution. One should rigorously observe recommended safety rules and procedures.

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## MAJOR CROP PROGRESS, WEATHER REPORTS

### WINTER CROP PREPLANT IRRIGATION RECOMMENDED

Kiev SILSKI VISTI in Ukrainian 31 Aug 86 p 2

[Article, published under the heading "Timely Advice," by Candidate of Agricultural Sciences V. Pysarenko, deputy director, Ukrainian Scientific Research Institute for Irrigation Farming, and V. Pidirko, chief agronomist, UkSSR Gosagroprom Land Improvement and Reclamation Administration: "Moisture-Charging Irrigation of Winter Crops"]

[Text] Farmers in the Steppe rayons of the Ukraine will soon be planting winter crops on irrigated acreage. Scientific research and practical Steppe crop farming experience indicate that winter wheat yields depend entirely on how well the soil is provided with moisture at planting time and during tillering, when they require 16-66 millimeters more moisture than the average quantity of rainfall.

In addition to thorough preparation of the soil, an important role in irrigation farming is played by fall moisture-charging waterings, the purpose of which is to create optimal conditions for the seed to sprout, for the forming of vegetative organs, and for the accumulation of plastic substances and sugars to increase the plants' winter-hardiness. As a rule winter wheat planted in fields in which moisture-charging irrigation has been performed produces yields which are larger by a factor of 1.5-2 in comparison with dryland acreage, while in dry years this practice boosts winter wheat yields by 30-32 quintals. Agronomists of leading farms, aware of this fact, fully utilize moisture-charging irrigation to ensure high yields of our principal grain.

In most of the republic's southern oblasts, this summer's weather was marked by high temperatures, low humidity, and little rainfall, which caused substantial moisture losses in irrigated fields. Not all farms were able to make up for the moisture deficit with irrigation during the vegetative stage, and therefore the soil was drier following the predecessor crops than in normal years. This is attested by the figures of the Ukrainian Scientific Research Institute of Irrigation Farming obtained in experiments on fields of third-year alfalfa, where the moisture deficit in the top meter layer of soil runs 900-1,000 cubic meters per hectare, and 1,260-1,720 in the top two meters.

Hence a first conclusion: the standard figures for moisture-charging irrigation waterings this year should be increased somewhat over the recommended figures (700-1,000 cubic meters per hectare); 10-12 percent more water should be applied in order to put adequate moisture in the top 1-meter layer. It is not desirable to provide moisture to less than a 1-meter soil layer (0.5 or 0.7 meter), since moisture stores may not be sufficient for normal plant development. In order to eliminate any doubt as to quantity of moisture-charging irrigation, it would be best to determine soil moisture by laboratory method in every field to be planted to wheat, barley, rye or other winter crops, and to figure how much water to apply on the basis of such a determination. This is the surest method, which for some reason is very seldom used by farm specialist personnel.

It is permissible to apply reduced (500-600 cubic meters of water per hectare) irrigation figures only when planting a winter crop following predecessor crops harvested late, when the heavy watering needed to charge the top meter of soil with moisture could delay planting.

Of considerable importance among the factors which substantially affect growth, development, winter-hardiness and yield of a winter crop is planting time. The period 15-20 September is optimal for moisture-charging irrigation for planting winter wheat in the central Ukrainian Steppe, 20-30 September in the southern Steppe, and 1-10 October in the Crimea. In determining planting time on each farm and in each rayon, one should figure that plants should be from 55 to 60 days in the vegetative phase prior to entering winter, producing 3-4 developed shoots.

This spring 12-16 percent of winter crops on irrigated acreage were reseeded in Zaporozhye, Donetsk, and Dnepropetrovsk oblasts, 27 percent in Voroshilovgrad Oblast, and more than half of the plots in Kharkov and Poltava oblasts. This is a consequence primarily of late planting, poor preparation of the soil and charging of the soil with moisture. This should not be allowed to happen again.

The time of moisture-charging irrigation waterings is also important. They should be completed 5-7 days prior to beginning of planting, which ensures that the soil will be ready, that productive moisture will be present in the seedbed layer, and allows for high-quality preplant preparation of the soil.

At the present time hot weather is occurring over most of the area in the southern oblasts, and evaporation of moisture from the soil surface is high, and therefore a span of more than 10 days between completion of moisture-charging irrigation and commencement of planting can lead to worsening of the moisture supply, especially if the amount of irrigation is small. One should definitely consider this feature of the current year.

Preplant irrigation rather than moisture-charging irrigation is performed on acreage with a very high water table (1-2.5 meters). The quantity of water applied is determined so as to prevent the irrigation water from joining with the water table. Preplant irrigation runs from 300 to 600 cubic meters of water per hectare, depending on depth of the water table, predecessor crop, and moisture reserves in the soil.

Fairly often some farms practice waterings after planting to stimulate sprouting. This is advisable only in extreme cases -- when winter crops are planted after predecessor crops which are harvested late, when moisture-charging or preplant waterings could excessively delay the planting schedule. Irrigation to stimulate sprouting should run 300-400 cubic meters of water per hectare. It should not cause the forming of a cracked soil crust, especially on solonetz soils, and it should ensure good sprouting. As a rule a meager watering to stimulate sprouting does not ensure an optimal supply of water to winter crops in the fall, particularly in southern rayons. For this reason it is necessary to perform just prior to tillering an additional vegetative-phase watering of 400-500 cubic meters per hectare.

One more peculiarity of this current year. Due to a shortage of electric power, in most oblasts moisture-charging irrigation for winter crops was performed for the most part at night. Farm managers, specialist personnel of farms and rayon agro-industrial associations must take this circumstance into account, select experienced irrigation equipment and system operating personnel, and ensure that they have normal working conditions. In every case rigorous monitoring and verification of timely and high-quality irrigation should be organized.

3024

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## MAJOR CROP PROGRESS, WEATHER REPORTS

### FALL SPRAYING OF WINTER WHEAT ADVISED IN CHERKASSY OBLAST

Kiev SILSKI VISTI in Ukrainian 26 Aug 86 p 1

[Article by V. Ryaboshlyk, director, Cherkassy State Oblast Agricultural Experimental Station: "Fall Spraying of Wheat: Mandatory Practice in Growing Intensive-Cultivation Winter Crops"]

[Excerpts] Study of the results of fall spraying of winter wheat has confirmed the considerable effectiveness of this cropping practice.

The method of fall spraying was tried on the Kiyanka, Okhtirchanka, Mironovskaya 25, Chayka and other varieties following various predecessor crops. The preparations BI-58, metaphos, and dursban proved highly effective. But BI-58 was the most effective. Every year field testing of fall spraying was also performed on the Dnipro Kolkhoz in Cherkasskiy Rayon as well as on farms in Zolotonoshskiy Rayon. In all cases this method proved highly effective. For this reason it has been determined essential to incorporate it as a mandatory cropping practice in the aggregate of procedures followed in intensive-technology growing of winter wheat.

In the fall of the year before last, such two-time spraying was performed on 100,000 hectares in the oblast, and last year on twice as much acreage.

This summer, as a result of very hot and dry weather, unusually large numbers of cicadas were observed in the corn and winter wheat; in the fall they have been observed among the emerging wheat in massive numbers, as a consequence of which a serious outbreak of viral diseases is possible. Precisely for this reason two-time fall spraying must be planned in advance and carried out in a prompt and timely manner.

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## MAJOR CROP PROGRESS, WEATHER REPORTS

### FALL CARE FOR PERENNIAL GRASSES

Kiev SILSKI VISTI in Ukrainian 15 Aug 86 p 2

[Article, published under the heading "Timely Advice," by I. Kurkurin, chief, UkSSR Gosagroprom Feed Production Administration, and P. Sarnatskyy, head of the department of feed production, Ukrainian Scientific Research Institute of Crop Farming: "Perennial Grasses: Care and Maintenance"]

[Excerpts] Due to adverse weather conditions in the first half of the summer, in almost all the republic's oblasts spring-undersown alfalfa, red clover, and leguminous-cereal grass mixture stands have thinned. On many farms leguminous grasses were mowed with considerable delay, which also disrupted growth processes. Grass stands which were not top-dressed with mineral fertilizers are in bad shape. This could negatively affect the overwintering of perennial grasses and their productivity next year.

It is extremely important to provide high-quality and timely maintenance of these stands in the summer and fall.

First of all it is necessary to rebuild thinned grass stands. This year's grass plantings should be overseeded with leguminous and cereal grasses in the Steppe and in the southern rayons of the Forest-Steppe, while only cereal grasses should be sown in the northern Forest-Steppe and in the Polesye. Optimal density of spring-sown leguminous grass stands is not less than 250-280 plants per square meter. If a grass stand has been thinned by 60-70 percent, it should be oversown with half the standard quantity of seed.

Thinned stands of red clover and alfalfa, as well as leguminous and cereal grass mixtures in the first, second, and subsequent years of utilization, should be built back in the fall with winter crops -- wheat, rye, barley, and triticale.

In rayons with mild winters, perennial grasses can be oversown with winter rape, and particularly with wintercress, which is resistant to adverse overwintering conditions.

Reconditioning of thin stands of perennial grasses should be combined with other procedures in order to ensure survival of the plants over the winter.

One of the most important measures is fall top-dressing with phosphate and potash fertilizers.

As a rule autumn top-dressing of perennial grasses is more effective than spring application, since fertilizers are better assimilated by the plants if there is sufficient moisture in the soil.

Top-dressing leguminous grasses in the fall with phosphate and potash fertilizers is of considerable importance.

Analysis indicates that on many farms one of the reasons for poor overwintering of perennial grasses is failure to perform the last mowing of grass stands. The final alfalfa cutting should not be taken earlier than the blossoming phase, and red clover -- prior to blossoming, but figured so that 20-25 days are left until vegetation completely stops. Such plants, after growing back, accumulate the greatest amount of plastic substances, which ensures preservation over the winter. Early mowings of young alfalfa (first and second year) are particularly harmful.

The mowing height on the last grass stand cutting is of considerable importance. The optimal height for alfalfa is 8-10 centimeters. If the cut is too high, nutrients are utilized more for maintaining the growth of uncut stalks, which leads to weakening of the plants. Too close a cut is also harmful, since the plants' heads are damaged, as a consequence of which their aftergrowth slows considerably. As a rule in the following year such grass stands show 40-50 percent diminished productivity.

On irrigated acreage fall waterings of 600-700 cubic meters per hectare in the Steppe and 400-500 in the Forest-Steppe are effective. Fall maintenance of perennial grasses also includes combating mice.

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CSO: 1811/002

## MACHINERY, EQUIPMENT

### TECHNOLOGICAL LEVEL, QUALITY OF AGRICULTURAL EQUIPMENT IMPROVES

Moscow PRAVDA in Russian 19 Jan 87 p 3

[Articles by A. Yezhevskiy, USSR Minister of Tractor and Agricultural Machine Building and B. Sokolov, 1st deputy chairman of USSR Gosstandart: "Reliable Equipment for Agriculture"; 17 October 86 PRAVDA article referred to in these articles was published in JPRS-UNE-87-012, pp 31-33]

[Text] The Ministry of Tractor and Agricultural Machine Building has examined the leading article entitled "A Complex of Machines for Agroprom," which was published in PRAVDA on 17 October and believes that the critical comments addressed to the branch are both justified and fair.

The Board of Minselkhozmash [Ministry of Tractor and Agricultural Machine Building], with the participation of leaders of production and scientific and production associations, enterprises and institutes, has outlined the measures required for sharply raising the technical level, quality and reliability of products.

By 1990, the plans call for the proportion of machines being produced which conform to high international achievements to be raised to 80 percent and also for the international level to be achieved in all newly developed equipment. During the years of this present five-year plan, the plans call for the removal from production of a number of obsolete models, with their places being taken over by new models. For example, commencing in 1988 the new multiple-purpose row crop T-142 tractor will be produced at the Lipetsk Tractor Plant and at the Tashkent plant -- the MTZ-80XM and MTZ-80X2M tractors. In Kharkov, prior to the end of the five-year plan, the obsolete T-16MM model of a self-propelled chassis will be replaced by the first industrial series of the SSh-28 and instead of the T-150K tractor production will commence on a modernized model of the T-151K. In 1988, the Volgograd plant will commence producing the highly productive DT-175S tractor. This year, at the Vladimir plant, the T-25A tractor will be replaced through the production of the more powerful T-30 tractor. The production of miniature tractors will commence at the Kutais Miniature Tractor Plant prior to the end of the five-year plan.

Further improvements in the technical level of the tractors are required. Their service life will increase to 8,000-10,000 and subsequently to 12,000

motor hours, their fuel consumption will decline and a reduction will take place in the specific design weight of the tractors.

More attention is being given by the ministry to satisfying the agricultural requirements for machines to be used with the T-150 and K-700 tractors. The plans call for the production of machines for all 112 types by 1988.

The ministry is attaching special importance to organizing the production and delivery to agriculture of machine complexes and systems which will ensure all-round mechanization in field crop husbandry and the introduction of intensive and industrial technologies for the cultivation of the principal agricultural crops. Towards this end, tasks are being established for completing the development and delivery to agriculture of machine complexes for the cultivation, using intensive technologies, of grain and grain crops, rice, soybeans, sunflowers, rape and grain corn and also potatoes, vegetables, cotton, sugar beets, flax and hemp -- using industrial technologies.

It was noted quite fairly in the article that the branch science has fallen behind the requirements of the times. Its logistical base is still weak at the present time. Commencing in 1987, the ministry will allocate up to 10-12 percent of its capital investments for the needs of science.

Additional measures are being undertaken at the present time in connection with the development and technical re-equipping of laboratory and testing and experimental bases of NII's [scientific research institutes] and KB's [design bureaus] and for priority deliveries to the branch of progressive technological equipment, flexible production systems and models and industrial robots

A. Yezhevskiy

USSR Minister of Tractor and Agricultural Machine Building

In the lead article of the newspaper PRAVDA for 17 October 1986, entitled "A Complex of Machines for Agroprom," an important technical question was raised concerning the technical level and quality of agricultural machines.

USSR Gosstandart [State Committee for Standards of the USSR Council of Ministers], by systematically carrying out checks on the quality of products at enterprises of Minselkhoz mash and Minzhiv mash [Ministry of Machine Building for Animal Husbandry and Fodder Production], is constantly strengthening its control and implementing punitive measures against those enterprises which are violating the requirements set forth in the standards and technical conditions while engaged in the production of goods. However, a comparison of the results of recent state supervision has revealed that no substantial improvements in the quality of the products of tractor and agricultural machine building or machine building for animal husbandry and fodder production have been noted, despite prohibitions against product shipments and economic sanctions. Commencing 1 January, in the interest of strengthening state control over the quality of the machines and equipment being produced for agriculture, a system of state acceptance will be introduced into

operations at 64 enterprises of Minselkhovmash and 40 enterprises of Minzhivmash. This system will encompass practically the entire nomenclature of products produced by these branches.

It bears mentioning that measures undertaken by USSR Gosstandart for raising the technical level and quality of agricultural equipment will be effective only if Minselkhovmash and Minzhivmash implement measures for ensuring unconditional observance of the standards during preparations for and the organization of production and the manufacturing of products.

B. Sokolov  
1st Deputy Chairman of USSR Gosstandart

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CSO:1824/156

## MACHINERY, EQUIPMENT

### LONGER SERVICE LIFE FOR AGRO MACHINERY, FOLLOW-UP COMMENTARY

#### More Extended Use of Equipment Required

Moscow PRAVDA in Russian 22 Mar 86 p 2

[Article by S. Nekrasov, Doctor of Technical Sciences, Moscow: "Saving the Steel Horse"; first paragraph is source introduction]

I recall when there was both old and new equipment in the rural areas -- it was a rarity here. And yet production is unthinkable at the present time in the absence of such equipment. Since 1960, for example, the tractor pool has increased by more than twofold and the combine pool -- by a factor of 1.5. Naturally, the workload per machine has declined.

It would seem that the service life of equipment should have increased. But alas, the life of a tractor has decreased by 50 percent over a period of three decades. The picture is roughly the same for combines.

One of the chief tasks of the country's agro-industrial complex is that of ensuring growth in the production of agricultural products. In the process, this must be achieved with minimal expenditures. Here a great deal depends upon the machines being delivered to the fields and farms. Their quality and reliability, as mentioned during the 27th CPSU Congress, leave a great deal to be desired. Quite often the machines are written off prematurely.

What are the reasons for this? There are many. First of all, it is believed that the norms are less than perfect. Let us look at the facts. Over a period of a quarter of a century, the service lives for a majority of the models of tractors and grain harvesting combines were reviewed repeatedly. And at the present time they amount to 7-10 years. What do these norms reflect, what caused them and what is their orientation?

The first attempt to understand them resulted in bewilderment. For example, the actual service life for the Belarus machines (MTZ-50 and 52) was an average of 3 years, the DT-75 tractor -- 1.3 years and a cotton harvesting machine -- 2.6 years higher than the norm. That is, nine out of ten Minsk tractors and eight DT-75's work longer than the period of time considered to be normal. Not to mention the fact that some of them served for 17-19 years.

This is a serious situation. It does not orient the machine operators or engineers towards achieving economies or thrift or extending the life of the machines. Nor does it interest the producers in raising the reliability and durability of the equipment.

There are some scientists who have recommended that the service life for tractors be lowered to 6-7 years and that for grain harvesting combines -- to 6 years.

The justification is disappointing. Indeed, following the mentioned period the productivity declines and the expenses for servicing and repair increase. The reasoning here is quite serious and yet statistics do not support it. The majority of the marks of tractors operate on a par with others for up to 15-16 years. Only in the case of the K-701 tractor does the tractor "sharpness" decline somewhat after a period of 8 years. Commencing with the fourth year, the daily output of the SK-6 combine decreases by 3-4 percent, whereas it remains roughly the same for the remaining grain harvesting combines.

Certainly, in terms of age a tractor or combine can be referred to as being senile. But the present norms force their retirement from operations when in the prime of their life. Is this advantageous for a kolkhoz, sovkhos or for the state as a whole? I believe not. Indeed, equipment is costly. It is costly from the standpoint of the metal used and also in terms of the effort put forth by workers, engineers and designers. The expenditures constitute a heavy burden that is added to the production costs.

An objection might be raised: at the present time, the party is committed to the task of accelerated replacement of fixed capital. This is an urgent task beyond any doubt. This is borne out in the Basic Directions approved during the 27th CPSU Congress. But one factor should be taken into consideration. In industry, over the past 25-30 years, the retirement of capital slowed down by roughly twofold while the operational periods for equipment and machines increased sharply. In agriculture, on the other hand, they declined by a factor of 1.5-2 as I have already mentioned. Thus, the renovation of equipment was held back unjustifiably in industry while in the rural areas it was accelerated. Agricultural equipment does not have time to become obsolete or physically worn out.

Reduced norms create the appearance of well-being in the sphere of production, repair and operation. They distract one from searching for the true reasons for low quality equipment.

The specialists are aware of how great is the amount of machine idle time in the fields: roughly 40 percent of the working time. This serves to prolong the sowing and crop harvesting operations. Yes and the expenditures for repair and servicing work are high: almost 7 billion rubles annually for the country as a whole. A considerable portion of this amount is used for spare parts. More than 200,000 workers are engaged in producing them. Use is being made here of a machine pool valued at 1.8 billion rubles, with 3.6 million tons of metal being expended annually.

The amount of repair work and equipment idle time is increasing. How can this undesirable process be halted? A "dam" must be built at its source. A sharp increase in the quality, reliability and durability of the equipment must be achieved in those areas where it is being planned and manufactured. Appropriate computations have been carried out by scientists attached to VNIIESKh [All-Union Scientific Research Institute of Agricultural Economics] and NATI [State All-Union Scientific Research Institute of Tractors]. It is sufficient to increase the service life of a tractor, in the absence of capital repairs, to 12-13 years and the advantages will be truly great. True, the machines are becoming more expensive. On the other hand however, expenses for repairs and operations are declining. Overall, the savings exceeds the cost of a tractor and the annual economic effect for the entire pool will amount to 1 billion rubles.

It is believed that the present norms are in conflict with scientific-technical progress in the agroprom. Actually, why raise the service life of a machine if before long it is to be written off? The chain stretches out even farther. Following capital repairs, the service life of a tractor declines almost by 50 percent and its reliability by a factor of 1.5. The reasons for this have been discussed in writing on more than one occasion. The organization of repair operations must be improved. But once again the norms are not oriented towards this.

Yet a great deal is being done at the present time to raise the durability of the machines. The technical potential is available for accomplishing this. Economic levers must be introduced into operations. Incentives must be introduced for high quality products, for improving the testing and experimental base of plants and the overall testing system. At the present time, up to 10-12 models of machines are undergoing checks prior to being placed in mass production. And there should be 25-30 units for evaluating their service life, or even better -- 100-200 units. Towards this end, departments for light series should be created at the enterprises.

The quality of capital repair operations must be improved, especially that for complicated units and assemblies. In particular, there must be more active development of firm repairs at production plants and their branches and a strengthening of labor and production discipline within the collectives of repair enterprises.

More powerful and more expensive machines and mechanisms are appearing in the rural areas. It is too wasteful to write off such equipment when it is still in good condition. In addition to producing direct losses, this also leads to an abnormal situation developing. The production of machines increases but almost no increase takes place in the size of the machine pool.

Here then is what happens: the plants exert themselves and still there is a shortage of machines in the rural areas. True, measures have been taken recently aimed at extending the life of equipment. Amortization deductions and fixed capital payments for machines and equipment which have outlived their normative period have been abolished. Excluded however are those deductions intended for capital repairs. This makes it economically advantageous to display a thrifty attitude towards the "steel horse" and

concern for its durability. But full advantage is not always taken of this factor. Owing to a shortage of spare parts, machines which have outlived their usefulness are written off for parts.

Generally speaking, the norms must be analyzed. They do not take into account the amount of time that a machine has been in operation. As a result, even that equipment which was operated for only 3-4 years during its amortization period is written off. It is believed that the norms must resemble somewhat those which existed earlier. For tractors -- 14 years and for grain harvesting combines -- 12 years. Another variant is also possible: use the average actual period of operation as the basis. That is, the "statistical norm." It will then be increased by 1-3 years compared to that for existing tractors and for combines -- by 1-2 years. There will then be an addition to the pool and savings in metal, resources and live labor.

In short, such an approach leads to an improvement in work throughout the entire chain -- from production to operations. It is best to employ economic measures. The norms should be corrected once every five-year plan, bringing them up to the average actual values.

An extension in the life of the machines will make it possible to supply agriculture more rapidly with them up to the optimum level, to obtain a worthy increase and to lower the production costs for field and farm products. And in industry, capabilities are being made available for the production of new equipment. No longer is it a case of each tractor or combine being given a warm welcome upon arrival in the rural areas. Today there are dozens and even hundreds of them on each farm. But this does not mean that we should be in a hurry to cut short their service life.

#### Results of Conference on Extended Equipment Usage

Moscow PRAVDA in Russian 25 Nov 86 p 2

[Follow-up commentary to 25 Mar 86 PRAVDA article by S. Nekrasov: "Saving the Steel Horse"; first paragraph is source introduction]

[Text] The need for increasing the normative service life for a number of agricultural machines was discussed in an article published in PRAVDA on 22 March 1986 under the title "Saving the Steel Horse."

As reported by the deputy chief of the Department for the Mechanization and Electrification of USSR Gosagroprom N. Stolbushkin, the article was examined during a conference for workers from the department, scientific-research institutes and training institutes. It was noted that the normative equipment service lives approved by the USSR Gosplan decree, established as minimal figures for a majority of the machines, conform to their technical level. These figures must be reexamined as improvements are realized in the quality and reliability of the equipment being produced and as the operational base of farms becomes stronger.

At the same time, the normative service life for a number of machines, such as the MTZ-80 tractor (82), T-25, T-54B and some others, should ideally be increased by 1-2 years.

Measures have been developed within the USSR Gosagroprom system for improving the quality of equipment repair work in the interest of extending their fitness for duty.

Since the basis for the normative service life for machines in agriculture is dependent upon many factors and requires further study, the scientific organizations and institutes are tasked with expanding their studies and preparing recommendations for this particular problem.

A response has been received from the Ministry of Tractor and Agricultural Machine Building.

According to Deputy Minister A. Skrebtsov, the problems touched upon by the article's author S. Nekrasov, are urgent and require the adoption of measures aimed at solving them. Computations carried out by leading NII's [scientific-research institutes] of Minselkhozmash [Ministry of Tractor and Agricultural Machine Building] reveal that the optimum service life for tractors and agricultural machines is 1-2 years longer than the present normative periods.

An increase in the service life for machines up to the optimum level will make it possible, by 1990, to satisfy fully the agricultural requirements for equipment and to produce a considerable economic saving. In particular, there no longer will be a need for additional deliveries of 480,000 tractors and this will be equivalent to a savings of 300,000 tons of metal annually.

The recommendations by Minselkhovmash for the normative service life of machines for the 12th Five-Year Plan have been sent for coordination purposes to USSR Gosplan and USSR Gosagroprom.

Work is being carried out directed towards raising the quality of the equipment. In particular, the plans call for the service life of tractors to be increased to 10,000-12,000 hours by 1990.

At the same time, the efforts by the branch's plants aimed at raising the reliability of equipment are not being carried out fully. The results of a one-time inspection reveal that from 8 to 12 percent of the tractor pool is being written off annually, including approximately 40,000 tractors being removed from operations prior to the expiration of their normative service life. The actual average working time by tractors is lower than the normative period by 20-50 percent and shows a tendency to decrease.

The proportion of parts and units which can be used following the writing off of tractors is approximately 80 percent. At the present time, these parts, together with the tractors, are being turned over for making into scrap metal.

The service life of parts is also being used unsatisfactorily in connection with the capital repair of tractors. The approved norms for their consumption for capital repairs call for the discarding of 80 percent of the cylinder

liners, 100 percent of the pistons, 20 percent of the crankshafts and many other parts, the technical service life of which is being used by only 40-60 percent.

The problems concerned with raising the normative service life of machines to the optimum level and also the status of work concerned with raising the reliability and quality of equipment production were examined during the conference in the ministry.

In accordance with the results of the conference, specific recommendations were prepared for presenting to the USSR Council of Ministers. In particular, they call for the evaluation of the duration of machine use in terms of calendar time to be replaced by an evaluation of operating time in terms of motor-hours. A proposal has also been made to introduce the sale of equipment to repair enterprises instead of turning it over to be made into scrap metal and to use parts and units which still have service life remaining for current and capital repair purposes.

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## TILLING, CROPPING TECHNOLOGY

### INTENSIVE TECHNOLOGY, GRAIN PRODUCTION IN BELORUSSIA

#### Grain Productivity Increase Reported

Moscow EKONOMICHESKAYA GAZETA in Russian No 42, Oct 86 p 11

[Article by Khusainov, Yuriy Minivalich, chairman of Belorussian Gosagroprom: "The Productivity of the Grain Fields"]

[Excerpts] Regardless of the structure of the planted area on a farm, the level of the culture of farming on it is judged primarily according to the productivity of the grain fields. The more productive they are, the more intelligently all production is carried out.

According to the Comprehensive Program "Grain"

In recent years our grain growers have had greater possibilities of increasing grain production. The material and technical base of the farms has been strengthened and much has been done to increase the fertility of the land through extensive land amelioration and increased doses of mineral fertilizers.

All this, of course, has produced its fruits. Even this year, which is not the most favorable one, grain growers of the republic harvested an average of more than 26 quintals of grain per hectare. Farmers of Grodno Oblast passed the 30-quintal mark. Eighty-five kolkhozes and sovkhoses in the republic increased the productivity of grain crops to 40 quintals and more, and 11 farms harvested an average of more than 50 quintals of grain.

The successes of the leading farms are gratifying. They show the great possibilities of the grain fields of Belorussia and the immense reserves. For along with the farms that achieved large yields there are many of those that harvested only 12-14 quintals of grain per hectare. There are many reasons for this lack of uniformity. But still the main one is unskillful management of the land and the lack of the proper responsibility on the part of managers and specialists of the kolkhozes and sovkhoses and the rayon agroindustrial associations for the productivity of the grain fields.

We cannot but be alarmed by the fact that, in spite of the considerable increase in deliveries of technical equipment, fertilizers and other supplies, during the years of the 11th Five-Year Plan the average annual yield of grain

increased by only 0.7 percent. And the farms of Mogilev Oblast produced even less grain than they did under the 10th Five-Year Plan. Grain harvests decreased in a number of rayons of Gomel and Brest oblasts as well.

An absolutely intolerable situation is arising with respect to such an important groat crop as buckwheat. During the years of the 11th Five-Year Plan its average productivity was only 4.7 quintals. And the plan for the sale of buckwheat was fulfilled by only 30 percent. Many farms were not even able to provide themselves with seeds. The republic government had to adopt a special decree concerning measures for increasing the production of this crop.

In order to increase the effectiveness of grain farming and achieve stability in it, we have developed and are implementing a republic comprehensive program called "Grain." What are its basic directions? I would name the following: persistent work for further increasing the fertility of the soil and utilizing each hectare efficiently, especially reclaimed areas, the application of intensive technology on the grain fields and, finally, improvement of the economic mechanism and the introduction of cost accounting and the collective contract.

The "Grain" program earmarks bringing the average annual level of grain production up to 8.4 million tons under the 12th Five-Year Plan, and by 1990 providing for a harvest of no less than 8.6 million tons, thus reaching the level set by the Food Program. A task has been set to increase the productivity of grain crops to a minimum of 31 quintals by the end of the current five-year plan or to provide for an increase of 6-7 quintals over the current level. In the future up to the year 2000 grain production is to increase to 10 million tons. Then it will be possible to allot for public animal husbandry approximately 6 million tons of our own grain forage and provide for intensive work in this branch.

And another thing. Because of the lack of balance of feed rations there is a large overexpenditure of grain forage which, according to calculations of specialists, reaches one-fifth of its total consumption. Now the shortage of protein in the feed rations amounts to an average of 12-15 grams per feed unit. We are solving this problem in two basic directions. First, we are expanding the areas planted in pulse crops, improving their structure and increasing their productivity through the development and introduction of progressive technological devices for cultivating these crops, and we are also compacting the grain spike crops that are cultivated for forage purposes by adding legume components. Second, we are increasing the areas planted in winter and spring rape. Even this autumn we have allotted about 70,000 hectares to be planted in winter rape for seeds and grain, and by 1990 it should occupy up to 3 percent of the arable land.

#### With the Application of Intensive Technology

The experience of the leading farms shows that it is possible to achieve a sharp increase in the productivity of all grain crops only through large-scale introduction of intensive technologies. The significance of these was emphasized once again by M. S. Gorbachev at a meeting with the workers of Krasnodar Kray. In our republic we are doing more work in this area each

year. While last year only 60,000 hectares were cultivated using intensive technology, this year almost 1.8 million hectares are, which comprises 60 percent of the area.

What has the application of new technologies done? First of all, the art of farming has advanced almost everywhere and the farms have begun to observe technological discipline more strictly. And the land is responding to their concern with a significant additional yield. Each hectare produced an average additional yield of 6.5 quintals of grain. There are a number of examples in which the additional yield per hectare is 10 or even 15 quintals. But many kolkhozes and sovkhoses did not achieve the desired results. On farms of Mogilev Oblast, for example, the additional yield per hectare was only 5 quintals. The situation was approximately the same in Gomel and Vitebsk oblasts. And yet an additional 70-100 rubles were invested in each hectare that was cultivated intensively. Why was the return so low?

In our opinion, the inertia of many farm managers and also Gosagroprom specialists has played its role here. Their idea of the effectiveness of the introduction of new technologies includes only the quantitative side. They think that the main thing is to apply more fertilizers and means of plant protection and to carry out a multitude of various operations. But this is a mistake. With intensive technology what comes to the fore is the question of prompt, precise and high-quality implementation of all agrotechnical devices together. This is why we aim the agroindustrial committees and the RAPO's toward raising the level of knowledge of specialists, middle-level personnel and workers in mass occupations concerning intensive technology for cultivating grain crops, and increasing their activity, independence and responsibility in conducting all organizational and technical measures directed toward increasing the productivity of the fields as well as increasing grain production.

When speaking of the problem of increasing the stability of the grain farm one cannot fail to mention how the reclaimed hectare "works." Many farms and even entire rayons receive high yields of grain and other agricultural crops on improved land.

At the same time in some places ameliorated land is taken out of the crop rotation, it becomes overgrown with weeds, and it loses its productive force. Farm managers and specialists, RAPO members, and land reclamation workers are mainly to blame for this. But there are also many problems whose solutions depend on the active participation of creators of land reclamation equipment and selection workers. Up to this point there are no mechanisms for mechanizing work for maintaining the drainage network. There is not enough special equipment for cultivating the soil on peat bogs. Land reclamation workers also do shoddy work. The farms are experiencing a shortage of microfertilizers that contain zinc, boron, molybdenum and copper. We are solving the majority of the aforementioned problems locally, but certain problems are still awaiting solutions from union agencies.

Grain growers who are introducing intensive technologies have many complaints against the creators of technical equipment. Up to this point they have not mastered the production of machines for subsoil tillage or for clearing plowed

land of rocks. Because of the lack of combined sets of equipment on the farms, the soil is prepared for planting with a large number of single-operation machines, which increases expenditures and reduces the quality of the planting and the productivity of the crops that are being cultivated. There is no technical equipment for applying small doses of mineral fertilizers, transporting chemical means of plant protection, and a number of other jobs.

Scientific institutions of the republic play a special role in the assimilation of intensive technology for cultivating the planted areas. Of course, there is not nor can there be any single formula for all farms. But adjusting recommendations depending on the situation is the responsibility of the branch institutes. Unfortunately, under this year's dry conditions our scientists have been unable to orient production workers toward the expediency of using pesticides. The institutes have not arranged effective control over the work of the support farms for developing an integrated system for protecting grain crops that are cultivated according to intensive technologies. A complete supply of necessary mineral fertilizers and modern means of plant protection have been allotted for these purposes to 47 experimental bases and the best farms in each rayon. But the return from these investments has been low. At the Belousovshchina experimental base in Pruzhanskiy Rayon, for example, the additional grain yield resulting from intensive technology was only 1.4 quintals per hectare, and the Ustye base in Orshanskiy Rayon and the Dashkovka in Mogilevskiy Rayon received no additional yield at all. One might ask: what is the level of farming and management in general there if the results of the work are worse than on ordinary rank-and-file farms?

#### Not at any Price

The agricultural year is coming to an end. The grain growers are summing up their first results. They have harvested a fairly good crop of grains, potatoes, flax and vegetables. The plan for the sale of grain to the state has been fulfilled. Animal husbandry workers received an appreciable additional yield. The planting of winter crops was conducted in condensed time periods. And three-fourths of the grain fields are being cultivated with intensive technology. All this inspires confidence in the idea that agricultural workers of the republic will cope successfully with the plans and socialist commitments for this year and will lay a strong foundation for next year's harvest.

#### Additional Yield Calculated

Moscow EKONOMICHESKAYA GAZETA in Russian No 3, Jan 87 p 10

[Article by B. Plavinskiy, deputy chairman of the Vitebsk Oblast Agroprom: "We are Counting on an Additional Yield"]

[Text] The key problem in farming has been and still is increasing grain production, which was discussed in the article entitled "The Productivity of the Grain Fields" (No 42 for 1986). It is crucial for our Vitebsk Oblast as well. One must say that the measures taken in recent years for

intensification of grain farming have contributed to a certain increase in the productivity of grain crops. But the yields of grain have practically not increased during the past 10 years. Under the 10th Five-Year Plan we received 17.8 quintals per hectare, and under the 11th--18.4. And the average annual gross grain production has remained practically at the previous level.

In order to make grain farming stable, the oblast has developed a comprehensive program, according to which by 1990 the productivity of grain and pulse crops is to be increased to 28-29 quintals per hectare.

Last year for the first time more than 260,000 hectares of grain were cultivated according to intensive technology. Unfortunately, the necessary return from its introduction was not achieved. The oblast harvested an average of only 22.3 quintals from each hectare--4 quintals less than the average for the republic. The plan for grain production was not fulfilled. A number of rayons and farms received practically no additional yield from the additional material and technical resources that were invested.

Of course, the violation of agrotechnology and the time periods from planting and tending the planted areas also had their effect. But there are also causes of a different nature. The farms are experiencing a shortage of microfertilizers. There are no machines for subsoil tillage or for clearing small rocks from plowed land. Because of the lack of combined sets of equipment for preparing the soil for planting, this was done with a large variety of separate machines. This increases expenditures and reduces the quality of the planting and the productivity of the crops that are cultivated.

Specialists of the oblast agroindustrial administration, the rayons and farms are now studying the causes of the small harvest and are developing specific measures for increasing grain production. The kolkhozes and sovkhozes have fulfilled the plan for planting winter crops for next year's harvest and more than 70 percent of them have been planted according to intensive technology.

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## FORESTRY, TIMBER

### MINISTRY OFFICIAL ON STATE ACCEPTANCE IN PAPER INDUSTRY

Moscow LESNAYA PROMYSHLENNOST in Russian 2 Dec 86 pp 1,2

[Interview with Yu. Nikitin, deputy chief of the Administration of Standards and Quality of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry, V. Alekhin, deputy chief of the Technical Administration of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry, L. Minasyan, department chief at the Main Administration of Chemical and Industrial Rubber Production of USSR Gosstnab, and others, by I. Pokrovskaya: "Entrance Examination: Gospriemka [State Acceptance]-Judge of Quality"; date and place not specified; first three paragraphs are LESNAYA PROMYSHLENNOST introduction]

[Text] State acceptance of output will be introduced at 18 paper industry enterprises as of 1 January of next year. This is an unusual, new endeavor and, in order to avoid a disruption at the very beginning, it was decided to organize a partial delivery of output to state controllers this year. For paper and pulp makers this is a kind of entrance examination in occupational skills.

As noted at the conference held at the CPSU Central Committee recently, the introduction of state acceptance at machine building enterprises was not painless. "Incentives, the acceptance system, receipt control, and accessories---in general, a whole range of problems appeared immediately."

Was the lesson of the trailblazers of the new endeavor beneficial to paper and pulp makers? In order to clarify this, our correspondent addressed a number of questions to representatives of the interested parties.

The first question was addressed to Yu. Nikitin, deputy chief of the Administration of Standards and Quality of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry: How is the preparation of paper industry workers for the forthcoming transition to state acceptance proceeding?

"On the basis of the joint June order of our ministry and the USSR State Committee for Standards," says Yuliy Vasilyevich, "we have revised the Statute on the Technical Control Department for these enterprises. We have singled out a special receipt control group in it. It will be stricter with regard to

the rejection of raw materials and chemicals not meeting all-Union state standards and specifications, which are delivered to these combines, plants, and factories. The responsibility of workers at the Technical Control Department in all other links of the production chain has also been raised. Tentative plans for preparation for state acceptance have been worked out and sent to organizations under our guardianship and special conferences with managers of collectives have been held. The fulfillment of an order is checked regularly.

"Our enterprises 'delegated' the most experienced controllers and production workers to state acceptance. For example, at the Solombalskiy Pulp and Paper Combine Yu. Pakhtusov, chief of sulfate production, was recommended as manager of state acceptance and chief metrologist V. Sharshov also formed part of it.

"Now enterprises are already delivering their output to the new body, gradually increasing its volumes. The Minsk Wallpaper Factory, the Kommunar Paper-Cardboard Factory, and the Dmitriyevskiy Timber Chemical Plant have increased the share of articles passed through state acceptance to 80 percent. State acceptance accepts about 70 percent of the output at the Klaypeda Pulp and Paper Combine, more than one-half, at the Balakhna Pulp and Paper Combine, 43 percent, at the Svetogorsk Pulp and Paper Combine, one-third, at the Voskhod Association and the Kherson Pulp and Paper Plant, one-fourth, at the Makarov Pulp and Paper Combine and at Kotlas, Solikamsk, and Solombalskiy combines, and one-fifth, at Bratsk, Kondopoga, and Syastroy."

A question to managers of the Minsk Wallpaper Factory: How did you manage to attain such a substantial figure in a short time?

"It should be stated that for 12 years we have been working without claims, although we are producing wallpaper mainly on 20-year old equipment. On the same production areas that existed before we have managed to increase output 1.5- to 2-fold, as compared to that envisaged by the plan," says B. Mikhaylik, the factory's chief engineer. "You will agree that it is possible to stay at such a level only with a very attentive care of equipment. At the factory schedules of planned stoppages, major repairs, and adjustment work are carefully calculated and steadily observed and technological regimes are refined. This has made it possible to eliminate such shortcomings as incomplete dying, incomplete printing, 'waste,' and big splashes. Last year the factory was entrusted with the output of wallpaper for Cuba, which made collectives again check all technological flow links, so that the innovation did not catch us by surprise.

"Meetings of engineers, technologists, and foremen and shift work meetings have played a positive role. People have approached forthcoming work with understanding. For example, fitter repairmen have changed over to the brigade form of labor organization. This has already produced good results. Regimes for the adjustment and smooth start of wallpaper printing machines at an operating speed and replenishment of the dye stock in the course of operation have been worked out. Here is the first result: The number of rejects has decreased sharply. Now 7 out of 12 wallpaper printing machines have been transferred to state acceptance. We will transfer the rest by December."

The Dmitriyevskiy Chemical Plant, the Bratsk Pulp Plant, and the Malin Paper Factory plan to change over to full state acceptance in December. Nevertheless, rejects have not been completely eliminated at paper industry enterprises. Why?

"In accordance with the requirements of standard-technical documents," V. Isayev, department chief at the Timber Supply Administration, answers, "balances of first- to third-grade pulpwood should be used in paper production. But USSR Gosplan does not allocate it sufficiently. This telegram has arrived from Bratsk recently: 'We are ready to change over to state acceptance provided stocks of first- and second-grade pulpwood are allocated for cord pulp and fourth-grade pulpwood for bleached pulp and firewood stocks are excluded.' The All-Union Soyuzbumaga Association sounds the same alarm in connection with providing Balakhna, Kondopoga, and Solikamsk pulp and paper combines and the Syktyvkar Timber Industry Complex Association with necessary raw materials.

"Unfortunately, there is nothing to make them happy with. Whereas this year our enterprises have received 26 million cubic meters of necessary timber for the production of newsprint and export products, only 18 million have been allocated for the following year. The remaining 8 percent will be replaced with firewood, which has not been envisaged by any norms."

The next question is addressed to V. Alekhin, deputy chief of the ministry's Technical Administration: Is everything satisfactory with respect to the provision of enterprises with chemicals?

"By no means everything. Making receipt control stricter has aggravated the problem of kaolin supply even more. This filler should have whiteness of no less than 80 percent. Very often, however, the importance of the main indicator is not sustained. Kaolin combines hardly engaged in sorting according to brands. Kaolin is loaded pell-mell just as excavators recover it from an open pit. As a result, enterprises receive a newly formed mixture and are forced to "chemicalize" it; for example, to mix 90-percent kaolin with 73-percent kaolin in order to obtain whiteness, even if diminished, but without an obvious defect. We have specified the need of every enterprise for kaolin of certain brands and, as a result, expect to slightly reduce the consumption of the filler with 80-percent whiteness, but still not so as to lie in the 'Procrustean bed' of deliveries. After all, this year the USSR Ministry of the Construction Materials Industry has allocated only 85,000 instead of the requested 361,000 tons to the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry and for next year, 90,000 instead of 270,000. With this ministry's existing capacities high-grade kaolin will continue to be a problem for us.

"Often the shortage of kaolin also increases, because the paper industry needs polyacrilamide, which retains kaolin, as well as fiber, in paper pulp on the forming table. However, there is also a shortage of this material."

What are the prospects? The answer of L. Minasyan, department chief at the Main Administration of Chemical and Rubber Industrial Production, hardly makes paper industry workers happy:

"We can meet only 60 percent of the need for polyacrilamide--mainly the Baykalsk Pulp and Paper Combine," Comrade Minasyan stated. "During this five-year plan there is no hope for an increase in its production. Perhaps something will change subsequently."

Thus, the question remains open.

Partial state acceptance at all fitted enterprises put in the forefront the problem of providing its services, as well as the Technical Control Department, with laboratory equipment and instruments. Organizations of 47 different ministries, including of our ministry, are engaged in their development. The experimental production facility under the Central Design and Technological Bureau of Instrument Making in Kiev, which is subordinate to the ministry's Technical Administration, annually manufactures 5 to 10 types of instruments out of the 80 necessary ones and in small batches at that--no more than 70 units annually. Production is now being reconstructed. However, it is not enough to change this. After all, it will remain experimental as before. What is to be done?

This is the picture painted by S. Smurova, chief engineer at the Department of Computer Technology, Metrology, Instrument Making, and the Automated System for the Control of Technological Processes of the Technical Administration:

"Our enterprises, which change over to state acceptance of output, and the state acceptance service itself right now need 58 types of sectorial monitoring and testing instruments. It is obvious, however, that neither by January, nor even by the end of the current five year plan, will the Kiev Experimental Production Facility provide the Technical Control Department, or state acceptance, with instruments. It should also be taken into consideration that up to 400 orders for our sectorial instruments annually arrive from other ministries. They are sent by publishing houses and other enterprises, which use paper and cardboard. They demand that the ministry provide them with instruments, because the State Committee for Standards obligates everyone to intensify receipt control.

"We tried to transfer stocks for the output of our instruments to the Ministry of Instrument Making, Automation Equipment, and Control Systems, but were turned down. The reason? We need batches that are too small--only 200 to 300 units--but the Ministry of Instrument Making, Automation Equipment, and Control Systems intends to manufacture instruments only in batches of thousands and tens of thousands. There is a closed circle: We cannot provide even ourselves, but we have to help others.

"Another question rises involuntarily: Why, strictly speaking, has the USSR State Committee for Standards, to which state acceptance bodies are subordinate, remained aloof from solving the problem of providing its services with the necessary equipment? We would like to receive an answer from the committee's competent workers for publication in the newspaper."

What M. S. Gorbachev warned against at the November conference at the Central Committee of the party utterly and completely applies to the paper industry. The sector's problems, which have not been solved for years, or have been solved with insufficient energy, have surfaced. Now they will have to be solved at accelerated rates. There is no way out of this. State acceptance brooks no delay.

11439

CSO: 1824/159

## FORESTRY, TIMBER

### KIROV TIMBER ENTERPRISE EXPERIMENT RAISES PRODUCTIVITY

Moscow LESNAYA PROMYSHLENNOST in Russian 22 Jan 87 p 1

[Article by P. Gumenchuk: "A Brigade Conducts an Experiment"]

[Text]-Kirov Oblast-"Look," Z. Chernyshev, director of the Mayskiy Timber Industry Establishment of the Kirovlesprom Association, pointed with his hand at the cottages for workers engaged in a work-drive, "the brigade of Aleksey Ivanovich Vilkov, holder of the Order of Labor Glory of second and third classes, which is known throughout the sector, works here."

A. Vilkov's mechanized tree felling brigade has been working for 2 months under two-shift conditions, changing its ordinary technology on an experimental basis. It has at its disposal the LP-19 tree felling and packing machine, four chokerless tractors, and two knot saws. With such a set of equipment A. Vilkov took it upon himself to procure 35,000 cubic meters of timber--one-half of the annual plan--during the first quarter of this year. He decided to fulfill the program for 3 years of the five-year plan by the 70th anniversary of Great October.

"Having studied the experience gained by the brigade of twice Hero of Socialist Labor P. V. Popov, winner of the prize of Soviet trade-unions imeni N. Krivtsov, party member A. Vilkov proposed that his brigade of four people be consolidated and that it work in two links in a duty-shift, changing every 3 days," says Z. Chernyshev. "Under the new labor organization the productivity of machines has increased sharply. Whereas last November with four units A. Vilkov's brigade procured 5,200 cubic meters of timber, during the first half of December 5,500 cubic meters were unloaded at the lower yard. Thus, the experiment proved to be successful."

However, the content of the innovation applied by the innovator does not lie only in this. It has also led to strengthening labor discipline.

We met Vilkov at the wood plot. I asked Aleksey Ivanovich what made him change ordinary work conditions.

"Dissatisfaction," answered the brigade leader. "Last year I seemingly 'squeezed out' everything from the LP-19. I procured 60,000 cubic meters of timber. Shift output totaled 350 cubic meters. This makes up 195 percent of

the assignment. Now, however, under two-shift conditions one LP-19 accounts for more than 100,000 cubic meters of timber, so that, as the saying goes, the game is worth the candle."

In A. Vilkov's collective all the eight machine operators are experts at their jobs. For the time being, however, the brigade does not have people equal to the brigade leader in skills and occupational preparedness for work at all mechanisms. The problem of interchangeability in connection with the transition to the work-drive method has now arisen in all its magnitude. The brigade is solving it. Vilkov teaches Vladimir Avedyuk and Aleksandr Vologzhanin how to operate tree felling and knot sawing machines.

Technical competence is another feature. If it happens that there is a need for urgent repairs of some unit, machine operators do not wait and are not idle. Rolling up their sleeves hastily, they eliminate an emergency situation unaided. A mobile repair shop is at their service. LP-19 operator Vladimir Kazakov, who is A. Vilkov's stand-in, can perform welding operations at a high level. All this taken together enables the brigade to attain the highest output per machine-shift at the association.

The brigade has an immutable rule: Even minutes of rest are subject to work. At the rail car for workers engaged in a work-drive in the evening one person "practises witchcraft" over a start-up engine, while the other "heals" a magneto generator.

A highly developed sense of personal involvement and responsibility for the assigned task is the last factor contributing to a smooth operation. Machine operators have not been picked for the brigade at random. They know about each other not by hearsay, but from deeds. Vilkov has been at the timber industry establishment for 20 years, Vologzhanin, about 10, and Avdeyuk, 7. Therefore, their collective decision expressed in such a high obligation--to procure 120,000 cubic meters of timber this year--is realistic.

The brigade began December under two-shift work-drive conditions. It also works in such a way in January. Vladimir Kazakov heads the second shift.

11439

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# GOODS PRODUCTION, DISTRIBUTION

## CARTOON COMMENTARY ON EFFICIENCY PROBLEM WITH STATE ACCEPTANCE

Moscow TRUD in Russian 18 Feb 87 p 4

[Cartoon by Yu. Erofeev ]

defective  
merchandise



STATE ACCEPTANCE

There won't be state acceptance  
today! There are no containers!

CSO: 1827/58

## FUELS

UDC 658.155:622.33.002.235

### COAL INDUSTRY FACES NEW MANAGEMENT CHALLENGES

Moscow UGOL in Russian No 1, Jan 87 pp 4-7

[Article by G. I. Nuzhdikhin, deputy minister of the USSR coal industry, under "Acceleration and Restructuring" rubric: "The Coal Industry's Tasks Under New Economic Management Conditions"; first paragraph is source introduction]

[Text] "There can be no solution to new problems in the economic system without thoroughly reorganizing the economic mechanism and setting up an integral, efficient and flexible control system for fully realizing the potentialities of socialism."--From the CPSU Central Committee Political Report to the 27th CPSU Congress.

In accordance with the decisions of the 27th CPSU Congress and the April (1985) and subsequent CPSU Central Committee Plenums which determined the primary directions for reorganizing our economy's administration, the coal industry is systematically preparing to change the sector over to a new management system as of 1 Jan 1987. As part of this preparation, major economic measures have been taken to create the conditions necessary to strengthen the effect of the economic mechanism so as to increase production efficiency. Thus, as of 1 January 1987, the sector introduced a system of accounting prices for coal output which allows associations and enterprises to better organize their cost accounting [khozyaystvenny raschet] procedures. The system for awarding bonuses to workers has been substantially reorganized: our workers' material motivation has been bolstered, and they are now more responsible for fulfilling the plan for delivering output to consumers; all associations have begun awarding bonuses to workers for fulfilling the labor productivity plan and about half of the bonus fund has been allocated to these ends; workers and officials have been made more responsible for monitoring output quality in compliance with the requirements set in the standards and specifications. Enterprise collectives have intensified labor and production discipline. As an experiment, the Gukovugol, Intaugol and Krasnoarmeyskugol production associations have been operating since 1986 under the new management system. The implementation of these and other measures has prepared the sector economically for a widespread transition to new economic management methods and has definitely brought about a general improvement in its work.

The coal industry spent the first year of the 12th Five-Year Plan period in successful operation--during 11 months of 1986 USSR Minugleprom shaft and open-pit mines took out 677.6 million t of coal, the plan was fulfilled by

102.3 percent and 15.4 million t of above-plan coal were mined. Compared to the same period for 1985, coal mining increased by 22.3 million t, or 3.4 percent. This increase in coal mining levels is the greatest in recent years. Open-pit mining has grown swiftly, having taken a 42.9 percent share of the total coal mined.

The 11 months' plan for labor productivity was fulfilled by 101.4 percent, and increased 2.9 percent compared to 1985. Collectives of 94 brigades are operating on a yearly mining quota of 500,000 t, and more, of coal (shale) and V. M. Gvozdev's brigades from the Yuzhkuzbassugol [Southern Kuznetsk Basin Coal] Association's Rospadskaya Mine and the section led by A. P. Potapov, from the Vorkutaugol Association's Vorgashorskaya Mine have far exceeded the million-ton coal-mining mark. The initiative shown by these two collectives by the remarkable increase in their labor productivity has earned them the approval of the CPSU Central Committee.

For the first time in many years the USSR Ministry of the Coal Industry has not only fulfilled its plan targets for basic economic indicators, but has even improved them compared to the same period for last year. The prime cost per t of coal has been reduced by 10 kopecks against the plan figure, and by 13 kopecks against the actual figure. This has effected a savings of R67.7 million calculated for the entire volume of coal recovery. The plan for profit has been fulfilled by 110 percent, thus bolstering the sector's financial position, and the material incentive funds have grown as well.

The Five-Year Plan for the Economic and Social Development of the Coal Industry calls for 785.3 million t of coal to be mined in 1990; for the entire increase in output to come about by increasing labor productivity; for the development of the Kuznetsk, Ekibastuz, Kansk-Achinsk and other coal basins of Eastern Siberia and the Far East to be accelerated; for the technical level of production to be raised and for coal quality to improve. These problems are to be successfully resolved along with retooling, putting recently-constructed and renovated enterprises into operation. Measures to improve economic administration procedures are to be implemented as well.

Under the new management system, the plan is growing in importance as the main instrument for implementing the Party's economic policy. The basic initial principles for improving planning and increasing its role in solving the tasks facing the sector consist in the following:

- greatly expanded limits of independence in planning for associations and enterprises, with simultaneously increased responsibility for the final results of their work;

- the application of stable economic normatives, which puts associations and enterprises in a position wherein their labor collectives are motivated to increase output yield and concern themselves with the thrifty expenditure of production resources;

- the establishment of a closer relation between labor awards and final production results both in planning and plan implementation.

Putting these principles into practice has predetermined the need to severely limit the number of centrally-approved indicators at all levels of sectorial administration. This is why the number of indicators and assignments for production associations was reduced by more than half in the plans for the 12th Five-Year Plan period. This was designed to create conditions which would stimulate a search for reserves and which would develop initiative and the socialist willingness to push ahead.

Of all planning indicators, the assigned targets for mining coal and manufacturing products from coal enrichment have been given a leading role. This stems from the fact that the centralized planning of output production in real indicators provides balance and proportional growth, both in fuel industry sectors as well as basic consumer sectors. Indicators for volume of output production in cost terms are used as accounting indicators in planning, and only the volume of marketable output is confirmed on all administrative levels in the yearly plans when evaluating plan fulfillment in accordance with concluded agreements and issued orders. Among the approved indicators there are also those which characterize the final results of the work done by the production collectives and the effectiveness and quality of produced output. Assignments for technical development of production are particularly important here, as are those for increasing labor productivity, for reducing outlays in manufacturing output and improving its quality, as well as the bottom line indicator--profit.

Under the new management system, the role of the five-year plan, which is the main form used to plan all the production economics and social activity of collectives on all sectorial administrative levels, is increasing. This growing role has necessitated a close interrelation between the five-year plan targets and the current activity of enterprises and associations. This is expressed concretely in the yearly plans.

Economic norms are supposed to play a fundamental role in enhancing the validity of plans and boosting the motivation of production collectives to develop and adopt more intense yearly plans for production volume, increased labor productivity, reduced prime cost of output and improvement in other indicators. In accordance with the new management system, norms are developed by upper-level administrative organizations, are given to associations and enterprises as part of the five-year plan and are subject to no further emendation. Basic norms include the formation of planned amounts for wage funds; formation of economic incentives funds; distribution of profits between the state budget and associations (enterprises) and accumulation of reserves of various types of resources within associations and enterprises. A normative relation between growth in labor productivity and the average wage is particularly important as well.

In order to enhance the scientific validity and balance of the plans for economic and social development of the coal industry, a major effort is underway to renew and replenish the system of progressive technical and economic norms and quotas. At present, some 300 groups of norms and quotas for regulating the use of various resources are being used on all administrative levels to plan coal and shale mining and processing.

Meanwhile, there are definite flaws in the organization and operation of the sector's normative operations. We refer here primarily to the scientific validation of normative information and the inspection of inventors' certificates prior to their introduction and use in planning operations. The development of measures for improving the accounting system and the monitoring of its actual implementation are directly connected with the questions of setting norms for the expenditure of a variety of resources.

The changing of the sector over to a new management system should improve the operational efficiency of all economic incentives and levers, including economic incentive funds. Here, the role of the production development fund is undergoing radical changes and is growing in importance as a source for financing state capital investments for retooling and renovating operating enterprises. This is being done purely with assets from this fund, and where there is a shortfall of such assets for the above purposes, bank credits can be brought in. Associations and enterprises are being given the opportunity to make independent use of part of the assets from the united fund for developing science and technology for conducting scientific research and planning and designing work on their own initiative during the retooling operation.

The allowances for forming the production development fund are being vastly increased during the 12th Five-Year Plan period. This will improve the opportunities for labor collectives to accelerate scientific and technical progress in operating enterprises.

All these measures give the associations (enterprises) more independence in implementing the technical policy and raise the association collectives' level of economic responsibility in ensuring needed growth rates and increased effectiveness in production development.

The fund for social and cultural measures and housing construction must play a crucial role in solving the problems associated with the social development of labor collectives. No less than 50 percent of this fund's assets should be used to finance construction of apartment houses, dispensaries, child-care facilities, pioneer camps and other non-productive facilities. To this end, the quotas for forming the fund for social and cultural measures and housing construction have been increased. In addition, with the consent of labor collectives, a portion of the assets from the material incentive fund can be added to the fund for social and cultural measures for use in financing construction of housing and other socially-related facilities.

The procedure used during the 11th Five-Year Plan period for forming material incentive funds for coal sector enterprises and associations has been cut back substantially. The method for forming these funds, and their use as a fund forming index for overall coal mining volumes have paid for themselves, mainly by stimulating the fulfillment and overfulfillment of the five-year plans for this indicator.

At the same time, under the new management system, a number of changes have been made in this procedure. The most substantial of them are as follows:

More incentive has been provided to fulfill the plan for deliveries---a major indicator under the new management system. In accordance with a new rule, an enterprise (association) which has successfully fulfilled the plan for output sales and has met the obligations for deliveries has the right to increase its allocations into the material incentive fund. At the same time, penalties for not fulfilling the plan for deliveries have been made more strict---the quota for reducing allocations has been reduced to 3 percent for every unfulfilled percentage point of the plan. Experience in using this procedure in three coal-mining production associations which were changed over to the new management system in 1986 is evidence of how much economic incentive has been given to the collectives to fulfill the plan for deliveries.

In order to motivate workers and to increase their responsibility for improving output quality the sector has for the first time granted associations the right to make additional allocations of up to 50 percent of their above-plan profits from having increased the additional payments made to improve the quality of shipped coal.

Associations (enterprises) have been authorized to form a unified material incentive fund which, in addition to assets from the in-house material incentive fund, is made up of assets for special bonus-awarding systems (for devising, initiating manufacture of, and introducing new technology, aiding in inventive activity and rationalization, economizing on specific material resources etc.).

In the process of forming and using the united material incentive fund, the assets for awarding bonuses can be redistributed, first for the tasks facing production association (enterprise) collectives, for increased volumes and improvements in production efficiency, the technical level and quality of manufactured output and for improving labor productivity. This will make it possible to make more effective and purposeful use of the assets at the disposal of the associations (enterprises) for material incentives.

Improvements in norm-setting and wages are playing an important role under the new management conditions. Provision has been made for expanding the rights of enterprises, which can use the wage fund to set up:

differentiated increments to the wage rates for high professional skill (up to 12 percent of the corresponding wage rate for Category III workers, up to 16 percent for IV Category workers, 20 percent for Category V workers and up to 24 percent for Category VI and higher-level workers) using assets saved from the wage fund;

salaries of up to R350 per month within the limits of the planned wage fund for highly-skilled workers involved with especially crucial and responsible jobs;

raises of up to 50 percent of the salaries of subdivision directors, experts and office workers for high labor achievements or for performing especially crucial work (paid for the time the work is being done) out of savings in the wage fund for corresponding workers' categories;

additional payments for holding two jobs (positions) for employees of a variety of personnel categories, without approval of the list of combined jobs (positions) by a higher-placed administrative organization;

additional payments for workers and foremen, chiefs of sections and shops and other specialists and office workers, for work performed in hazardous conditions.

A wider range of rights has been granted production associations and enterprises in providing workers' incentives. They have the right to independently develop and approve, as per agreement with trade union committees, rules for awarding bonuses for basic results of economic activity for the following groups: workers, designers, process engineers and scientific personnel, employees of technical control services and other directors, specialists and white-collar workers. Associations and enterprises set the indicators and amounts for bonuses for workers based on their specific working conditions and the tasks facing subdivisions in corresponding structural positions.

The need to change over to adding bonuses to brigade and structural subdivision collectives (section, shop and department) overall, (having established maximum amounts for them). Bonuses for brigade members are set differentially within the limits of the total sum added, and with respect to a worker's personal contribution to the overall work results, and are not limited by maximum limits.

USSR Minugleprom will approve only the position on awarding bonuses to leading workers of associations and enterprises. In this regard, the bonus for fulfilling the plan for volumes of output sales is paid out in amounts of no less than 50 percent of the sum total of the bonus for basic results of the work done in that particular industry.

Under the new management system the role of cost accounting has been increased as regards improving the organization of labor and production, ensuring high quality in the work performed and frugally expending materials and power. The coal industry is continuing to develop both traditional and new forms of cost accounting. Enterprises, sections, shops and brigades can be changed over to cost accounting. Brigade cost accounting and the brigade contract are becoming increasingly important in the present circumstances. During the 11th Five-Year Plan period the number of brigades working on a cost accounting basis increased substantially. Thus, whereas there were 1,814 such brigades or 5.1 percent of the total number in USSR Minugleprom in 1981, there were already 6,324 of them at the beginning of 1986, or 13 percent of the overall number. Among the best of these are I. Z. Sofronov's face-cleaning brigade from the Severokuzbassugol Production Association's Pervomayskaya Mine, I. M. Lisovskiy's brigade from the Voroshilovgradugol Production Association's Voroshilovgradskaya No 1 Mine, B. F. Avdeyev's heading team, of the Novomoskovskugol Production Association's Zubovskaya Mine, and many others.

There are increasing numbers of brigades whose members include workers paid on a time rate, as well as engineering and technical personnel. As of 1 January 1986, UkSSR Minugleprom had 207 such brigades and the Kuzbassugol All-Union Production Association had 112.

At the Kemerovougol and Yakutugol production associations' open-pit mines they have consolidated their collectives by uniting the excavating and motor vehicle brigades which now work together toward a single final result (the volume of processing of transport stripping). The formation of these brigades has considerably reduced the idle time for excavators which was caused by lack of motor transport.

The introduction of new highly-productive equipment, progressive production methods and rationally organized production and the dissemination of advanced working methods have necessitated the continuous improvement of norm-setting in this operation. The output quotas, in their role as an element of the economic mechanism, are supposed to stimulate the search for reserves for increasing labor productivity and to create material incentives for increasing production efficiency.

In recent years a considerable effort has been underway within the coal industry to raise the norm-setting level and to develop technically valid output quotas for the coal fields. In the "coal-mining" subsector, 97.2 percent of the workers are covered by labor-related norm-setting, and the quotas for 99.4 percent of the work done by piece-rate workers are set in accordance with technically justified norms, which are fulfilled by 106 percent on average.

There needs to be an improvement in the setting of labor quotas in the coal industry's machine-building plants. Here, the labor of only 31.6 percent of the workers who are paid a time rate is covered by these quotas, 38.9 percent are experimental and statistical quotas, and the work quotas for 76.8 percent of the piece-rate workers are set according to technically validated norms.

The basic directions for further improving the setting of coal industry labor norms consist in:

- developing and applying consolidated integrated norms for mining output, and implementing these norms in accordance with the conditions necessary for organizing labor in brigades. This allows maximum orientation of the brigade's work to the final results, classification of the work for which the norms are being set by the type of process entailed in its execution and standardization of work volumes according to their individual processes. The development of consolidated integrated norms for the coal-fields and production associations is being completed, and beginning in 1987 they will be introduced in the mines, which will make it possible to apply uniformly stepped-up norms for different workplaces and to lower the normative labor intensiveness of the jobs;

- developing unified sectorial output quotas for piece-rate workers and standards for numbers of workers paid on a time rate.

As part of the preparations for the transition to the new management system, special commissions were formed, needed organizational measures were implemented, training sessions were conducted and extensive explanatory work was done on all administrative levels and in workers' collectives and placards and leaflets were printed.

Methodical rules for the formation of a wage fund based on quotas, the procedure for forming and using incentive funds, social and cultural measures and residential construction have been developed, approved and sent around to associations and enterprises, as have a united material incentive fund, a production development fund and the procedure for forming and using financial reserves and distributing profits. A Handbook of Methodological Documents on the New System of Management for the Coal Industry has been published.

Those production associations which were operating under the new system in 1986 attained fairly high results in their economic activity. They overfulfilled their plans for production volume, increased their labor productivity, reduced their prime production costs and overfulfilled their profit plans by a great deal. All the associations met their contractual obligations for coal deliveries.

Putting the rights granted to the associations under the new management system into effect has greatly increased the dimensions of the economic incentive fund. The amount of the material incentive fund actually contributed has increased by almost a third. About half of the assets from the fund for social and cultural measures and residential construction is used to finance capital investments, mainly for housing construction.

A definite effort has been made to improve cost accounting. Thus, the Intaugol Association has drawn up and put into effect a Statute on Intra-industrial Cost Accounting which presents the requirements of the new economic management system. It regulates the economic relations within the association and all its structural subdivisions. The Statute calls for a reduction in the number of approved indicators for the five-year and yearly plans and a procedure for concluding internal agreements and examining any disputes which come up, keeps account of the meeting of delivery targets and obligations, regulates the system for supplying material and technical supply to the mines, plants, OF's [concentrating mill] and other subdivisions and monitors outlays for wages. The Statute has prescribed a sequence for changing brigades over to cost accounting, providing collectives with plan indicators, keeping account of actual outlays, and forming individual brigade accounts.

The right granted to the enterprises to provide incentives for the attainment of high professional skill levels and for working at two trades is being used more extensively. A similar effort has also been made in other associations.

Associations have used their above-plan profits to create a financial reserve which has improved the stability of the enterprises' financial position. For example, the Krasnoarmeyskugol Association uses this reserve to make up for shortfalls in in-house working assets.

Individual enterprises of the Gukovugol Association (the Antratsit, the imeni 60th Anniversary of the Lenin Komsomol and the imeni 50th Anniversary of October mines), have been using their right to transfer, with the agreement of the labor collective, a portion of the material incentive fund's assets to stimulate jobs which are crucial to these enterprises and which are performed by other organizations as per concluded agreements.

At the same time, the opportunities for achieving better results in the operational activity of the associations operating under the new management system have not been fully used. Neither enterprise employees nor association administrative staff workers have yet mastered the essence of the new system, and even the employees of association administrative staffs and those working in capital construction have failed to involve themselves actively enough in the reorganization of the economic mechanism.

Despite the reduction in the number of approved plan indicators, accounting indicators have also been given to the associations and enterprises. The associations' rights to use the production development fund and the united fund for the development of science and technology went unrealized during the last five-year plan period.

In a number of cases the introduction of cost accounting was subjected to a formal approach, and this stems from flaws in the organization of norm-setting for material resources, in accounting for these resources and in providing incentives for cost-accounting results. The enterprises' right to provide incentives for economizing on material resources has not been used enough. The efforts to disseminate progressive organizational and wage forms and to include workers and specialists paid on a time rate in brigades has been carried out sluggishly.

These shortcomings must be eliminated as quickly as possible when changing all the sectors over to the new management system. To this end, not only economic, but production-related services must be brought in on all administrative levels.

Particular emphasis must be given to the implementation of those measures which provide for:

- the organization, and technical and economic preparation of production so as to create the conditions necessary to make complete use of the advantages of new methods of economic management, and to accelerate the economic and social development of our labor collectives;

- the consistent and strict observation of new planning regulations, greater substantiation of plans through the extensive use of progressive quotas and norms;

- effective use of economic levers and incentives so as to ensure that plans for deliveries to customers are 100 percent fulfilled, to ensure increased labor productivity and rational utilization of productive resources;

- systematic introduction of the new wage system;

consistent implementation of self-repayment and self-financing principles;  
in-depth study of the new methods of economic management by employees on all  
skill-levels;

The successful introduction of these new methods of economic management within  
our production associations and enterprises will contribute to continued  
improvements in the work being done by the coal industry.

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## LABOR

### CAREFUL SCRUTINY OF WORK TIME UTILIZATION NEEDED

Moscow EKONOMICHESKAYA GAZETA in Russian No 1, Jan 87 p 15

[Article by V. Belenkiy, senior scientific associate of the laboratory for social planning, sociological research and psychophysiology of labor of the Scientific Research Institute of Large Tires: "Reliability and Again Reliability"]

[Text] Like a magnifying mirror, the amount of time between shifts reflects the traditional shortcomings in the system of material and technical supply, the lack of coordination in intershop cooperation, and the unsatisfactory work of the repair services. The list of "objective" and "subjective" causes which exhibit various symptoms of the same disease--production arrhythmia--can be lengthened considerably. But what is the quantitative expression of these losses?

According to statistical data, the average annual amount of idle time between shifts, for example, at enterprises of the tire industry amounts to only 0.51 percent of the working time. Is this relatively good? Yes, if one does not take into account the fact that here we have a reflection in a "reducing" mirror, since official documents register only an insignificant proportion of the idle time between shifts. Judging from our rough calculations, this proportion is only 2-2.5 percent of the actual losses.

During individual years of the 11th Five-Year Plan certain enterprises (the Volga, Yerevan and Krasnoyarsk tire plants and the Dneproshina and Vobruyskshina associations) showed no idle time between shifts at all in their reports--and this was certainly not because there was none. At annual technical-economic conferences and meetings of the party and economic aktiv the managers of the Dneproshina association discuss the causes in the greatest detail and "figure out" the parties guilty of causing losses of working time, but in the reports the lines are filled with zeros. Traveling brigades of economists have discovered significant losses of working time at certain of the aforementioned enterprises. In the Chimkentshina and Nizhnekamskshina associations and the Barnaul Tire Plant they exceed the average indicators by a factor of 3-6.

As our observations show, in the majority of cases they fail to fulfill the provisions concerning accounting for intrashift losses and filling out the

forms for down time that are presented in the "Standard Instructions for Statistics on Numbers of Personnel and Wages of Workers and Employees at Enterprises and in Institutions and Organizations" (established by the USSR Central Statistical Administration). Losses are undoubtedly registered for "internal bookkeeping," but according to the principle of "we shall write down two and keep seven in our heads."

The conversation we had with workers of the dispatcher and economic services of the Dneproshina Association is remarkable in this respect. Dispatchers of the production division register intrashift losses in a special journal, indicating the subdivisions that are most frequently responsible (as a rule, they are the services of the head specialists: mechanic, metrologist, energy engineer). Losses caused by leaders of shops, divisions, sections and shifts, and also those caused by the workers themselves are also registered, but only the longest of them--one, two or three hours, and no attention is paid to the others. As the shop economists and workers of the division of labor and wages admit themselves, there is no direct interconnection between the journal of the dispatchers and the forms for down time.

The form for down time is filled out by the foreman. But he is not at all interested in looking for additional work. Moreover, the guilty party must be indicated, which means that he will have a material penalty and a "wedge will be driven" into the cordial relations. Of course, sharp conflicts are also possible, when the guilty party is a service on which the results of the work of the section collective depend. In these cases, as one of the foremen, a veteran of the Voronezh tire plant, noted, there is not the slightest reason for spoiling relations today and falling into disfavor tomorrow. The foremen do not conceal the fact that it is more "advantageous" to conceal down time, and in order not to offend the workers--to "cover" losses in earnings with any kind of bonus, right down to payment for overtime work.

An average of about 40 percent of the idle time between shifts in the subbranch occurs because of organizational reasons, an equal amount occurs because of technical reasons, and about 20 percent is the fault of the workers.

Of course, nobody likes to lose wages by somebody else's fault. But this quite justified position is fraught with serious losses of production and technological discipline. People frequently try to compensate for a loss of time by "accelerating" the technological schedule or even skipping individual operations, or, at best, staying to work after the shift is over, which is also reflected in the quality.

An inert and indifferent position in documenting idle time between shifts is taken by engineering services, whose initiative is paralyzed by the question of who will be held personally responsible for the down time. Orders and instructions concerning punishment for specific individuals guilty of intrashift losses are extremely rare.

The fourth section of the quarterly postal form 2-T, "Report of Production Association (Combine) or Industrial Enterprise Concerning Fulfillment of the Plan for Labor," reflects the utilization of the calendar supply of time of

industrial production personnel and takes into account more than 20 indicators, including idle time between shifts. It would seem that one could speak of complete accounting for time expenditures. But there is reason to raise the question of the reliability and usefulness of these figures.

This form has a loophole which allows the enterprises to submit the report not for the quarter, but only for the results of the semester. But few people will have use for a report that has been delayed 7 months. Moreover, in reality the managers of enterprises and economists when filling in the lines of the report reflect only extremely small losses, and the statistical administrations do not always burden themselves with emotional strain concerning the "imprecision" of measurements and figures. Thus originates the practice of remaining silent about the real scale of losses of working time, which can also be seen from the example of accounting for losses of time between shifts.

In a word, there is an obvious lack of economic, managerial and psychological interest in reliable and complete reflection of losses of working time on the part of participants in production.

Failures to appear at work because of illness cause mass losses, which in the tire industry, for example, account for two-thirds of all the losses. So far there has been no serious improvement, which is confirmed, in particular, by the results of our research at a number of enterprises. One can state that the considerable reserves and real possibilities that lie in improving the working conditions for workers and perfecting the culture of production are still being utilized inadequately by executives, trade union organizations, engineering subdivisions, services for protection of labor, and sanitation laboratories.

Losses because of unauthorized absences in the tire industry are decreasing, but the proportion of discharges because of violations of labor discipline are increasing significantly. And this is understandable: the growing complexity of production places ever greater demands on discipline. An "extreme situation" arises when the enterprises do not work to prevent violations of labor discipline and when there are no conditions developed for collective material responsibility for strengthening it, for example, following the practice of enterprises of Sverdlovsk Oblast.

It is possible that under the conditions of complete cost accounting, self-financing, extensive dissemination of the collective contract and the brigade form of labor organization there will be a need for a certain revision of legal norms related to discharging workers. But at the present time, of course, when discharging people it is necessary to strictly observe legislation that is in effect. Therefore the legal literacy of management workers directly affects losses of working time, or, more precisely, the effect comes from the legal illiteracy of officials.

As an analysis shows, every second or third worker who is discharged on the initiative of the administration is returned to production by legal agencies.

Expenditures to pay for these forced absences amount to impressive sums. But what if the state made up for all the losses at the expense of managers who are ignorant of labor legislation?

Table. Cost of One Minute in 1987

|                                                                 |                             |
|-----------------------------------------------------------------|-----------------------------|
| During 1 minute industry will produce products worth a total of | 1.7 million rubles          |
| electric energy                                                 | 3.17 million kilowatt-hours |
| rolled metal                                                    | 215 tons                    |

It will extract:

|                              |            |
|------------------------------|------------|
| petroleum and gas condensate | 1,174 tons |
| coal                         | 1,415 tons |

It will produce consumer goods (not including light industry) worth a total of:

|                            |                |
|----------------------------|----------------|
|                            | 700,000 rubles |
| television sets            | 68             |
| refrigerators and freezers | 43             |
| washing machines           | 42             |
| household clocks           | 497            |
| shoes                      | 3,595 pair     |
| fabrics                    | 35,710 meters  |

The state of affairs with respect to the small economic services also leaves something to be desired. To one degree or another they engage in accounting for and conducting time and motion studies of work time. They have no authority whatever and have a very low status on the "table of ranks" of structural subdivisions. Their workers, who receive low wages, are not interested in searching for reserves for improving the utilization of working time. In the majority of cases the timekeepers are on the staffs of structural subdivisions, under the jurisdiction of people who are far from always interested in reflecting the actual state of affairs.

Perhaps there is some point in creating independent services at the enterprises, including in them controller-time experts and time clock inspectors. I do not think that such a restructuring would require expansion of the administrative staff.

We have not touched on many "borderline" problems and aspects which comprise a subject for extensive discussion and special consideration. Nonetheless it seems necessary to give constructive suggestions which, in our opinion, can contribute to the creation of a statewide system of effective utilization of work time.

First of all it would be expedient to develop a comprehensive target social program with the conventional name "Working Time" or, say, "Labor Discipline," in which economists, sociologists, legal experts, psychologists, specialists in scientific organization of labor, personnel specialists, specialists in automated systems for control of production, representatives of other sciences and production organizers could participate. Efficient utilization of time should be considered on a large, statewide scale, without forgetting, however, the effectiveness of the labor of each worker.

Clarity and accuracy are needed with respect to many production situations. I shall give just a couple of examples.

Because of the lack of legal regulation of "repair days," many enterprises regularly fail to carry out or are late with planned repair of the basic technological equipment. Short-sighted managers use these days to fulfill the planned indicators for production volume.

In particular, legislation contains no clarifications of the idea of absences for "agricultural Saturdays." It is difficult to understand the expediency of granting leaves for only two work weeks after such a "Saturday." Why not give the managers the right to do this under conditions that are mutually acceptable with the workers without any such restriction?

In a word, as we can see, there are many small, "particular" problems. But the basic truth is that there are no trivia in the matter of setting policy in production, that everything here is important, and fairly frequently we use this truth only as an emotional appeal to an audience and not as a precondition for concrete, effective management restructuring.

It is necessary to establish unwaveringly strict responsibility for unproductive utilization of time for each and every individual--from the worker to the minister. Alas, today fairly frequently there are no specific parties but ordinary workers who stand to lose from managerial carelessness or inefficiency. In eliminating such injustice an important word should be contributed by the USSR Ministry of Justice and the Institute of State and Law of the USSR Academy of Sciences.

It is necessary to develop a strict system of accounting and accountability for the utilization of the supply of working time, which, it seems to me, should be directed toward discovering losses during the shift and unjustified diversions from work. It would be expedient for the USSR Central Statistical Administration and the USSR State Committee for Labor and Social Problems to prepare regulatory methods for the collection and analytical generalization of information concerning the utilization of work time, of course, on the basis

of modern computer equipment. This material would become an important and reliable aid for plant economists, time study experts, experts in scientific organization of labor, and people's controllers.

Labor productivity is now calculated not per unit of actual work time, but for the calendar period, and these are two principally different things. Why not introduce a coefficient of productive utilization of time for all labor collectives?

All these questions are fairly difficult, and the answers to them, of course, cannot be simple. But it does seem that the utilization of work time should become one of the main measurements when evaluating the effectiveness of management and the most moral category that determines the social image of the labor collective and the level of organization as a whole.

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CSO: 1828/79

## CIVIL AVIATION

### OFFICIAL OUTLINES CIVIL AVIATION SECTOR ISSUES

Moscow VOZDUSHNYY TRANSPORT in Russian 24 Feb 87 pp 1-2

[Interview with V. S. Kolchanov, chief of the Political Administration of Civil Aviation, by V. Karpiy of VOZDUSHNYY TRANSPORT under the rubric "Beyond the Paragraph of a Party Decision": "At an Accelerated Pace, Responsibly and Effectively"]

[Text] [Question] Valeriy Sergeyevich, a year has passed since the first day of the 27th CPSU congress, which outlined a sharp turn in the country's development, responded to important problems of the time, and adopted decisions which define the nature of our activity for many years. How effectively are the congress decisions being implemented in the sector? Could you identify some results of this work today?

[Answer] I am not an advocate of generalized assessments, you see. For a completely accurate, textbook position that there are no minor problems in civil aviation, generalized conclusions always conceal the danger that something important is not perceived and is overlooked. For this reason, I prefer accurate, objective evaluations involving specific items in the sector's work. And this activity is so diverse that it is not simple to evaluate it unequivocally.

But if certain generalizations are to be made all the same, they are only in the extremely specialized area of indicators. In the course of the year marked by the work of the party's 27th congress, state assignments have been implemented by civil aviation more smoothly than previously. The plan has been fulfilled principally through better use of the fleet of airplanes and helicopters, reduction of proportionate fuel consumption, and increased labor productivity. Plan indicators attest that aviators have given a heartfelt welcome to the congress decisions and are striving successfully to put them in practice.

However, we must be clearly aware that only one-fifth of the complicated and crucial path outlined for the 12th Five-Year Plan has been covered. And we have no right to self-delusions about what has been achieved.

[Question] A distinctive feature of the 27th CPSU Congress documents is their purposeful orientation toward the individual. The establishment of civil aviation political organs, in accordance with a CPSU Central Committee Politburo decision, which are called upon to cover the entire range of problems related to the concept of a human factor, is confirmation of this party line.

The congress emphasized that with a new level of quality in development of the economy, technology and science, the role and responsibility of the individual are increased immeasurably as the meaningfulness of his work, ideals and values increase. How is this question interpreted as it applies to civil aviation employees? After all, political organs are engaged in dealing with it in their everyday activity...

[Answer] The tasks which the party is setting for the sector are becoming more and more complex. This is inevitable--the country is moving forward, and a course to acceleration has been set. Success in the work depends on the ideological conviction and political maturity of the sector's employees, the extent of their organization, discipline, and their professional and moral qualities. Developing these qualities requires painstaking, persistent work. The political organs also have been called upon to engage in this very work, namely by reinforcing party-political and ideological and educational work and by improving the activity of party, trade union, Komsomol, and other public organizations.

Analysis of the state of affairs in our common house--Aeroflot--in the first year after the congress has shown that there are corners covered with the mold of routine, demagoguery, bureaucratism, slovenliness, and negligence. By rolling up our sleeves, we have begun to rid ourselves of all this, guided by communists' adherence to principle, honesty, and broad openness in discussing the most vital problems. However, this removal is proceeding slowly, and it is necessary to speed it up; it also must be remembered that the smallest remnant of mold left in the house will begin growing over again.

What conclusions come to mind from an analysis of affairs in the Krasnoyarsk, Yakutsk, Tajik, Belorussian and a number of other administrations where the Political Administration has been working?

First of all, the quality of work in a number of aviation enterprises is being improved slowly, reorganization in this matter is proceeding poorly, and the command and management personnel and party organizations lack sufficient critical analysis of the state of affairs in most cases, and as a result, there are no necessary decisions and no initiative.

Secondly, the problems of improving flight safety are not being resolved satisfactorily, and the proper exactingness does not exist toward cockpit personnel and aviation specialists in the conduct of preventive work to ensure the high quality of flight activity.

Thirdly, the condition of discipline requires radical improvement; it does not correspond to the highest requirements which the party is setting today for every Soviet individual.

Fourthly, the required change has not taken place in resolving social problems, but after all, the most important line of the 27th CPSU Congress decisions is precisely to attach priority importance to development of the social area.

I could continue this list, but the conclusions cited also attest to neglect in the work, namely with people and in instilling a sense of proprietorship in the individual.

On increasing the role and responsibility of the individual and the meaningfulness of his work... This conclusion by the party congress is of paramount importance in civil aviation; after all, the sector is surrounded by the latest achievements of scientific and technical progress and it has an extraordinary amount of the most complicated equipment, which is continuously being perfected...

If I am not mistaken, the cost of a program for the development and production of a modern transport aircraft is now such that no state, with the exception of the USSR and the United States, is in a position to carry out such a program "alone." But if we can talk about the cost of an aircraft, how do we measure the price of the lives of the 350 passengers which now have been entrusted to the crew and different services for just one Il-86 flight?

Such trust requires high moral and political, psychological and professional qualities and places a strict, firm demand on everyone involved with a flight for irreproachable knowledge and accurate implementation of all regulatory documents, for maintaining discipline in the crew, the flight detachment, the OAO [unified aviation detachment], and the administration. But the same trust obligates commanders, political workers, and party and trade union organizations to do everything possible to provide each aviator with good working conditions and to reinforce his confidence that he was right to choose this important and romantic vocation. And the quality of work by everyone taking part in aviation production is the primary concern here.

[Question] We are discussing one of the most important matters--the quality of Aeroflot's work. Improvement of this indicator remains on the agenda of the ministry and the Political Administration of Civil Aviation, and is a source of concern for every commander and communist...

[Answer] Yes, this indicator gives rise to anxiety--and justifiably. This involves improvement of flight safety first of all. Matters are not proceeding well in in the North Caucasus, Tyumen, Yakutsk, Krasnoyarsk, and East Siberian administrations, the UGATs [Central Regions Administration], and a number of aviation enterprises where violations of flight rules have been permitted.

But let us define the problem: perhaps the low quality and efficiency of flights in the subunits named stemmed from causes that were unexpectedly revealed and unknown causes? Not at all. Behind each unsuccessful flight extends a train of the very same omissions: violation of discipline and the rules for flights and operations, shortcomings in organizing flying work

and vocational training, and errors in controlling air traffic... There is practically no new cause which would not be well known by everyone responsible for a flight. And the majority of them are related to the role of the human factor.

We have analyzed the work of two enterprises in the North Caucasus Administration--at Mineralnyye Vody and Volgograd. The former is up to the mark in all indicators (here it is, the generalized assessment); it has operated for quarter of a century without aircraft accidents. Last year's plan was fulfilled for all the basic and calculated indicators.

But what did we encounter after examining the work of this somehow deserving enterprise more intently? Complacency and euphoria, less acuteness in the evaluations of their own miscalculations, and formalism in conducting methodical training. A. Maksimenko, deputy commander of the unified aviation detachment for political affairs, and the party committee are avoiding attention to work to develop criticism and self-criticism in the shop party organizations and party groups. The decisions adopted at party meetings on flight safety matters do not go beyond the bounds of general appeals, watered down by forms of party work: assemblies and meetings--and only that.

The result? In the flight detachment where V. Drobot is the commander (his deputy for political affairs is V. Kretov, and the party committee secretary is V. Levdin), deficiencies in flight work were allowed four times, and three times those at fault were crews headed by pilots first class with many hours of flight time. A paradox? No, a natural result. It follows directly from what I described.

Volgograd... The quality of flights also declined here last year, and at the same time, half of the defective work through the fault of engineering and technical personnel in the entire SKU GA [North Caucasus Administration of Civil Aviation] is attributable to the ATB [aircraft maintenance base] here. The pilots have not been lagging behind, either. The reason? Reorganization has not taken place in the style, forms and methods of the work of command and management personnel and the active party membership in the spirit of the decisions by the party's 27th congress on problems of flight safety and reinforcing discipline. Stagnation and indifference... Yu. Dmitriyev, the aviation enterprise commander; N. Dudanov, his deputy for political affairs; and S. Popov, secretary of the party committee, are directly at fault for this.

The problem of flight safety will be on the agenda as long as men fly in aircraft. Civil aviation is being updated continuously--new people arrive and are retrained in new types of aircraft. They must be taught and trained. The commander, political worker or party organizer who thinks that he can resolve the flight safety problem and forget about it is mistaken. No. This matter requires daily attention, because it does not matter to the sky who is to be tested--a novice or an experienced pilot, talent or mediocrity. Those who have flown agree with the psychologists--all situations in flight are individual ones, and even the same crew in similar circumstances can come out of them with different results. And we have the right to only one result--successful completion of the flight.

The slightest deviations from it are a warning signal about negligence in professional training and in the work of instilling strict discipline, responsibility and courage. I recall the words of M. Gromov well: "You always want to think better of yourself than you really are. But you pay dearly for such self-deception when you encounter reality. So it is better to clench your teeth right away to be soberly aware of it." At first I applied these words only in flying work. I realized later that they have a much broader meaning...

As a whole, the problem of improving flight safety requires extensive separate discussion by all persons concerned, as they say (and not alone, I hasten to add). I think it is within the editorial staff's power to organize such discussions, especially as many problems have accumulated. I am aware of this from conversations with command and management personnel, political workers, and representatives of the most varied services locally. For my part, I am ready to take part in them. I can also suggest the first topic: why is the efficiency of numerous measures aimed at improving flight safety so low? Where is the miscalculation? Even initial observations persuade us, because they come not from analysis, that is, from the individual, of measures to achieve the final objective: realization, conviction, training and practice, but they are implemented according to principle--they must be carried out so as to "close the question," as they say, or to "remove the supervision."

Speaking of the quality of work in the sector, we must also direct our attention to the standard of passenger service.

Unfortunately, we are hearing less applause from passengers grateful for our work than we would like, than professional pride requires of us. The time when the flight itself was an event is long past. Of course, we cannot help but take pride in the fact that Aeroflot is rapidly gaining more and more popularity as a form of transportation. In just the past quarter century, its share of intercity transportation increased from 7 to 34 percent, and on routes of over 1,000 kilometers more than 80 percent of the passengers are carried by aircraft. But the rates of increase in passenger flows have overtaken the development of quality in passenger service and left it behind.

Significant material resources will be required for the construction, expansion and renovation of airports, agencies and ticketing areas. I would like to express gratitude today to the many local party, soviet and economic organs which are meeting us halfway in resolving the many problems of developing the country's air service. But time will be required to change the physical base of the sector significantly. The passenger cannot wait. And he is right.

Because the most frequent complaints about the quality of service are justified reproaches for indifference, bad manners, callousness and boorishness. Yes, the growth of Aeroflot has brought with it a huge influx of new persons in our aviation family. We have not always been very attentive in accepting them, and later we have bitterly regretted this haste. This is the role of personnel selection and placement for you. In Tashkent, for example,

they accepted persons in the transport organization service without the proper supervision. Why are physicians, teachers, and salesmen coming to work which pays less than they could be making today? Because they have been counting on privileges and unearned income. Many violations have been exposed today in the process of normalizing the situation.

We have not always and not very persistently pursued work to instill professional honesty and pride in those who have entered our house.

[Question] A key link in party leadership is the selection, placement and training of personnel. Political organs, together with local party organs, have been called upon to perform this very task. A comprehensive special-purpose program for work with personnel has been established and is being introduced in the sector. To what extent is it effective, and does it correspond to the requirements of the day?

[Answer] The January Plenum of the CPSU Central Committee, at which the question of reorganizing the party's personnel policy was examined in the report by M. S. Gorbachev in a broad socioeconomic plan, taking into account the lessons of the past, the nature of the situation being experienced by the party and the people and the tasks for the future, has certainly had an immense effect on all aspects of the sector's work. And the program for work with personnel established in civil aviation is now being reviewed and corrected, taking the requirements of the CPSU Plenum into account. We are obligated to ensure that the decisive criterion for evaluating personnel in all subunits and all areas of civil aviation work has been their attitude toward reorganization and their tangible contribution to it.

I have already mentioned that the style of work by personnel in the sector is still being reorganized slowly. This particularly concerns the middle management level and the party committees of aviation enterprises and administrations. How often we still encounter the desire to live in the old way, together with window-dressing, phrase-mongering and paper-shuffling.

Let us take the same Tashkent Aviation Enterprise... In analyzing the situation, we met with more than 350 aviation workers. The situation is alarming: people are concerned by the failure to observe social justice, the biased approach in personnel placement, and the cases of theft, extortion, and bribery...

What kind of economic, party and trade union managers are in this enterprise? It's the old approach. Justify and explain, thereby concealing the negative manifestations. The active approach by labor collectives and their implacability toward antisocial trends are being impaired by management's indulgence and lack of a clear-cut position. These conclusions were graphically confirmed at the meeting of the Tashkent OAO party committee on 5 February, where V. Shchukin, the commander of the aviation enterprise, did not find the courage to give an honest evaluation, based on principle, of the collective's work, and B. Turik, the chief of the administration, and M. Abdullazhanov, chief of the political department, found nothing better than...to remain silent.

B. Turik's neighbor V. Ryazanov, chief of the Tajik Administration, signs documents for the payment of a reward to V. Staroverov and R. Resh, who allowed the most flagrant violations in official activity, without a moment's hesitation. Staroverov promoted speculation, and for 2 years a construction workers collective was illegally "hit with the ruble," as they say, by Resh, and only after intervention by political organs was order restored in this matter.

Lenin said: "We need verification of people's fitness, verification of actual fulfillment... The most important thing in all work and all policy lies in this, again in this, and only in this--checking people and verifying actual fulfillment of the work." This powerful, clear concept is three times as important for civil aviation, where the work itself has no place for any level of quality other than 100 percent. The requirement for everyone is the same--responsibility for the work and the collective. For this reason, the principle of selecting and promoting managers will be reinforced. So we understand the prospects for work with personnel.

Airmen who have just been assigned to one position or another require special attention. The primary concern of both senior supervisors and political workers is to help, instruct and support them. At the same Volgograd enterprise, a new commander of the unified aviation detachment and two flight detachment commanders have been assigned, and more than half of the squadron commanders have been replaced. But they have not received direct operational assistance from administration employees. But time need not be spared for this. In advancing young employees, what matters is the sector's future and the persons through whom we will be carrying out the party policy in labor collectives...

[Question] The draft Law of the USSR on the State Enterprise (Association) is being discussed, and the editorial staff is receiving letters with this reasoning: in the recent past, they say, some collectives have elected "convenient" managers of party, trade union and Komsomol organizations for themselves. Won't the same thing happen now with the elections of economic managers?

[Answer] And they will be punished. Under self-management, self-financing, self-reimbursement, and other "self" conditions, a "convenient" manager elected by a collective will be accountable in the bank in a situation where that same collective will suffer for its own compromise. In the present situation, compromises and half-measures will lead only to defeat. The same applies to parasitical attitudes, which so often serve as a screen for passivity by either an entire collective or by its managers.

It is an interesting question, however, and I think that we will come across those collectives that are looking for a peaceful, quiet life on the sidelines of reorganization and acceleration. And it is your business as newspaper employees to tell about their "experience" here.

Incidentally, on the subject of experience, but without the quotation marks. There is obviously little of the genuine, advanced experience, achieved through extraordinary work under the conditions of acceleration and

reorganization, in our sectorial press. Although it unquestionably exists in the best collectives, squadrons and crews. But without sharing it, without many putting it into wide practice, the value of this experience is extremely small. The experience of the veterans of war and labor is invaluable. I think that both the newspaper VOZDUSHNYY TRANSPORT and the journal GRAZHDANSKAYA AVIATSIYA should reinforce their vital contribution to the sector's reorganization by working in two important directions--by revealing shortcomings and by struggling against what is obsolete and propagandizing everything that is advanced.

[Question] As we know, it has also been a year since political organs were established in civil aviation. What has been accomplished, and what are the tasks which now face political workers?

[Answer] How is the year remembered? By the work... By the selection, placement and training of persons in party and political work. Has this process been completed? No. Each new day demands new things from us, and a person is also checked by actual fulfillment of the work.

Especially as there is no end to the work, as they say. Reorganization of party and political work is proceeding slowly. The quality and effectiveness of it is lagging behind the requirements set by the party. The level of training of a number of political workers still remains low. Party influence on the course of reorganization in civil aviation still has not gathered sufficient strength. Party organizations do not have enough firm resolve in making objective evaluations and decisions, and the energy and persistence to implement them.

The tasks? We must cope with those miscalculations that I mentioned, as well as organize party and political work under the new conditions of economic operation. Reorganization of the style and methods of work by political departments and party organs is necessary to ensure the leading role of communists in carrying out the planned objectives and socialist pledges assumed in honor of the 70th anniversary of the Great October Socialist Revolution. It is necessary to provide for the system of party and political work to improve the level of flight safety and passenger service.

In general, we are faced with resolving a broad range of complex tasks set by the party's 27th congress and subsequent plenums of the CPSU Central Committee. And the new tasks cannot be resolved by the old methods.

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## CIVIL AVIATION

### PILOT REPORTS MI-26 HELICOPTER DESIGN PROBLEMS

Moscow VOZDUSHNYY TRANSPORT in Russian 12 Feb 87 p 2

[Article by V. Gaak and A. Krivosheyev, Mi-26 helicopter commanders, under the rubric "A Sharp Warning": "A Giant Standing Idle"]

[Text] Tyumen--We have been waiting impatiently for the Mi-26 helicopter in Tyumen for a long time. Excellent performance, and the opportunity to transport previously "unliftable" loads--all this aroused interest in the aircraft from both aviators themselves and many of our customers as well.

And now the operational tests which had been entrusted to us are behind. On the whole, they went according to specifications. We each accrued 400 hours in the Mi-26 and were convinced that this is exactly the helicopter needed for the Tyumen North. Excellent power-to-weight and thrust-to-weight ratios, maneuverability, economy, advanced navigation equipment, and ease of handling--these are the advantages of this aircraft.

But at the same time, far from everything is within its power. For example, the Mi-26 is still not ready for operations under winter conditions. Thirty complaints in 6 months are a little too many even for operational testing. The most vulnerable spot is the current collector, or more accurately, the method of manufacturing it. There are still a number of problems for the design bureau. Unless they are resolved it is difficult to guarantee high efficiency in flights, and for this reason both of our aircraft have had to remain idle since the beginning of December. The work suffers above all because of the red tape in correcting the defects. The North needs a helicopter capable of transporting heavy equipment from place to place without dismantling it, just as it needs air. And although it is confined to the ground, the enterprise has a considerable number of depreciation expenditures just the same. The crews, aircraft technicians and engineers regularly receive their unearned wages.

The sector is deeply interested in putting the new equipment into use. But in fact, it is turning out quite differently. The Mi-26 is being loaded by a method that is almost antiquated, and the opportunities for operation with the suspension system are limited. A number of regulatory documents are not available yet. On the one hand, the reasons are rather clear: difficulties during the breaking-in period are inevitable. But it is another question if they are objective in nature.

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## CIVIL AVIATION

### WORKER DETAILS PROBLEMS AT IRKUTSK AIRCRAFT PLANT

Moscow VOZDUSHNYY TRANSPORT in Russian 3 Feb 87 p 1

[Article by Yu. Pushchin, brigade leader at Civil Aviation Plant No 403 and holder of the Order of Labor Glory, Third Class, under the rubric "Reflections of a Working Man": "In Practice, But Not on Paper"]

[Text] Irkutsk--Our plant has been returning aircraft to service for nearly 60 years. Its path has been glorious, marked by searches and triumphs, problems, and sometimes even failures. And the road ahead probably will not be smooth, either. What is important is our attitude toward the lessons of the past, the ability to draw conclusions from mistakes and to adopt everything of value for subsequent work. And it seems to me that we don't always know how to do this: to analyze accurately, to investigate, seek out, and adopt... We are devoting much too much effort to routine and everyday concerns. Yes, we can never get away from them, but we cannot forget the outlook for the future, either.

There are really many problems at the plant. There is a critical shortage of production areas, the equipment is obsolete, and contacts with suppliers of spare parts are poor, and as a result, there are two figures: the proportion of manual labor at the plant is very high, up to nearly 60 percent, and 60 percent of the work volume falls within the last 10 days of the month. Personnel turnover, which is further intensified by the lack of housing, is a result of this. These problems did not emerge today, and there can be no hope at present that they will be resolved literally tomorrow. The roots of the problem are too deep. But we can and must struggle against the negative effects. Struggle with our strength, and the labor collective has a great deal of strength.

My hands are familiar with every airplane and helicopter landing gear assembly. In 10 years one can learn to perform all operations with his eyes closed; this is a quality of any skilled worker. At the risk of appearing immodest, I will say that what has not been so well managed, what is interfering with the work, and where we are still losing are more apparent to a person who does everything directly with his own hands. And it is right

here, when all the perceived discrepancies which are not within your power to correct by yourself are determined, that dissatisfaction comes to a head. Then an engineer should come to the worker's assistance. His role in production needs to be discussed in a little more detail.

We are convinced by the example of collaboration with process engineer G. Pazdnikov that many of the problems can be resolved on the spot without particular bureaucratic complications. Assisted by him and other engineers 2 years ago, we built stands for taking the tires off an An-24 airplane. Previously this operation was performed manually by three persons, but now it is performed by one person with a pushbutton. We adapted the stand for taking the tires off helicopters as well.

We are now working with the process engineers on an alternative to the procedure of turning around the openings of bronze bushings on torque links by hand. This will make it possible to decrease labor-intensiveness, improve quality, and reduce the proportion of manual labor. The drawings have been prepared and we are close to adopting the innovation. In the same way we have been making a device for turning the axles and shafts of the main landing gear struts mechanically. Easily, conveniently and practically.

Good examples? Absolutely. But there are rather few like them. The role of the engineering service has not been displayed very clearly thus far. And we see that it hits the "tail end" of problems and is immersed in paperwork. In my understanding, an engineer is first and foremost a creative person, a builder who works on long-term problems of quality, smooth operation, and acceleration. It turns out to be something else in practice. An engineer is more of an administrator than a generator and conductor of ideas.

I will illustrate my thought with an example which is ready at hand on the assembly table. The main landing gear strut of An-24 and An-26 aircraft is now a new modification. It comes to our section today without drawings and without the necessary explanations. We don't know what to do and how to do it, and with what. But after all, our engineers have known for a long time that the new strut would not come in for repair today or tomorrow. What do we have here: poor communication with the main plants, sluggishness, the habit of leaving something for "later?" An unequivocal answer suggests itself: our engineering service is not very concerned about the end results of labor, it has been separated from the urgent problems of production, and all its efforts are spent on routine, mending holes, and as I stated already, covering the "tails."

Reorganization has been declared along the entire front, and there is only one path here--to think, improve and accelerate. And still more accurately, to change our relationship to the work. It would be naive to assume that reorganization implies just the introduction of computers, a new array of machine tools, and advanced technologies, and that all this will come by itself.

One more thought disturbs me. We have introduced a number of interesting devices here in the section. It has become easier to work more independently. But do they know about our findings at other plants? Hardly. As we know

nothing about what the workers at related enterprises have found that is new. We are making inefficient use of our overall refinements, even though they are small ones. For example, we are turning the axles and shafts of main landing gear struts with the aid of our devices. Meanwhile, engineer G. Pazdnikov has visited one of the "Aviaremont" [Aviation Equipment Repair Industrial Association] plants and tells us that they are still "twisting" by hand there. Perhaps we are also looking today where our comrades--the aircraft repair workers from other cities--had an idea a long time ago? We are surely underestimating the importance of a creative exchange among plants. But we consider out-of-town work assignments meaningless, and we forget about them altogether. For the most part our engineers leave for complaints and argue on the subject of who is at fault until they are hoarse. And they bring nothing practical back.

It is time for putting everyone in their places, for looking around, for each one to engage in his own work. The worker should carry out and the engineer should think. Our work experience should be provided with engineering support, in fact. We have something to think about together, so that we are talking about real reorganization today, in practice, and not on paper.

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## CIVIL AVIATION

### BRIEFS

**VRANGELYA ISLAND AIRFIELD--Chukotsk Autonomous Okrug--**An air bridge has been extended across the Longa Strait in the Arctic Ocean from polar Pevek to the protected Vrangelya Island by pilots from the Chaunskoye Aviation Enterprise. Regular flights from the mainland to the settlement of Ushakovskoye became possible after a new runway, built by a student construction brigade from Magadan in a short period of time, was turned over for operation on the island. [By our own correspondent R. Bikmukhametov] [Text] [Moscow IZVESTIYA in Russian 11 Dec 86 p 1] 8936

**IRKUTSK AIRCRAFT PLANT EXPANSION--Irkutsk--**Finishing work on construction of a hangar for painting aircraft is nearing conclusion at Civil Aviation Plant No 403 in Irkutsk. Its commissioning will significantly relieve operating areas of the seventh assembly shop, where aircraft painting is now being done. Painters and washers will receive a spacious new facility which will enable them to improve the productivity, smooth operation and quality of repair operations and working conditions. A work commission arrived at the project recently. Basically everything is ready for the commissioning--heat, water, and sewage disposal have been provided and the cleaning facilities and ventilation have been completed. A small amount of electrical and finishing work remains to be completed. The plant workers have been waiting for a long time for the new hangar to be completed. Every Saturday 60 to 100 plant workers come to the assistance of the brigades of the civil aviation SMU-11 [construction and installation administration No 11] and its subcontractors, putting their future work places in order. "The hangar will be presented to the state commission on 22 December," states A. Rudakov, deputy plant manager for capital construction. [By our own correspondent Yu. Kolesnikov] [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 20 Dec 86 p 1] 8936

**NEFTEYUGANSK AIRPORT UPGRADED--Nefteyugansk--**The residents of Nefteyugansk have received an excellent gift from local airmen. A Yak-42 on a proving flight with a crew from the Krasnoyarsk Administration arrived here. And not long before that, a Tu-154 arrived at the airport for the first time. The aviators, together with construction and road workers, had put in a great deal of work so that these two events could take place. The runway was extended and the ramp was expanded. Ground service specialists have completed the appropriate training. Soon Nefteyugansk residents will be able to fly nonstop to cities in the European part of the country and to Black Sea and Northern Caucasus resorts. Transportation arrangements for hundreds of shift workers

who now have to reach here from the Ukraine by An-24 aircraft will be simplified considerably. [By V. Shushunin, deputy commander of the aviation enterprise] [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 13 Jan 87 p 3] 8936

**KHABAROVSK MI-8 HELICOPTER SIMULATOR**--The first and only helicopter simulator in the country's east has been installed in the training and simulator subunit of the Far East Administration of Civil Aviation. Khabarovsk engineers A. Mikhno, V. Romashov, A. Danilenko, I. Bakarinov and L. Vasilenko, assisted by technician V. Gumenyuk and instructor A. Kalganov, developed the Mi-8 simulator on the basis of the Il-18 and Il-14 simulators which were written off. Yu. Kabardin, chief of the simulator service, and senior engineer V. Avdeyev supervised the innovators' work. Until now Mi-8 crews have flown to Omsk and Tyumen for simulator practice. The savings on these flights alone now will amount to about 300,000 rubles annually. In addition, the amount of airfield training will be reduced, which will make it possible to save a great deal of fuel. And more purposeful actions by helicopter crews will increase the flight safety of the "eights." The engineers of the simulator service could have waited quietly for the arrival of a plant-manufactured simulator, of course, but it is different time now, which makes it own adjustments to the customary course of events. Employees of the Far East Administration are striving to work in a different way, creatively and with inventiveness. Control testing of the simulator has been completed. After the final touches, the simulator will begin "regular flights." The commission consisting of representatives of the Ministry of Civil Aviation and the Kremenchug Flight School has evaluated the work of the training and simulator subunit craftsmen highly. [By nonstaff correspondent V. Sopolev] [\text] [Moscow VOZDUSHNYY TRANSPORT in Russian 13 Jan 87 p 3] 8936

**FAULTY MAYAK COMMO EQUIPMENT**--Efforts by innovators in the Tyumen Administration of Civil Aviation basically have been aimed at "refining" the new equipment which arrives until it is in working condition. One-third of the "Mayak" radio units received a year ago are not working, either. A letter from department chief G. Shakhov described this and other problems preventing collectives of the ERTOS [operation of radio technical equipment and communications] base from working efficiently. We have received the first response to this correspondence, published in VOZDUSHNYY TRANSPORT No 148 of 11 December 1986. The Ministry of Civil Aviation sent a request to the management and party committee of the Voronezh Production Association "Elektrosignal" to take immediate and effective steps to improve the product's operating characteristics. In the letter of reply, the association management informed the ministry that technical acceptance of the radio sets had been organized at the enterprise by representation of the customer. The supplier has introduced an improved decoder circuit, eliminated a compressor from the control panel, and replaced a number of microcircuits. We hope that all this will have a positive effect on the quality of the radio units. Implementation of the measures is being checked by the GUZSANT MGA and the TsUERTOS GA [Air and Ground Production Equipment Orders Main Administration and the Operation of Radio Technical Equipment and Communications Central Administration of the Ministry of Civil Aviation]. [By S. Nesterenko, chief of the radio communications department of the TsUERTOS GA] [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 17 Jan 87 p 2] 8936

L-410 SERVICE TO BEREGOVOY--Zeya--Until recently An-2 aircraft provided transportation service between the settlements of Oktyabrskiy and Beregovoy. Because of the instrument weather conditions--these settlements are bounded by the Tukuringra Range, you know--it was not consistent. Preparation to receive the faster and "all-weather" L-410 was begun last year. The first proving flight by the microliner over the Zeya-Beregovoy route by pilots G. Narkhov and Yu. Yerko of the Blagoveshchensk Aviation Enterprise was completed successfully. The complicated route of nearly 100 kilometers took just 25 minutes. In the near future, the L-410 route will be extended to the lumbering settlement of Gorniy, on the BAM [Baykal-Amur Mainline]. [By AMURSKAYA GAZETA correspondent V. Volchkov] [Text] [Moscow VOZDUSHNIY TRANSPORT in Russian 24 Jan 87 p 1] 8936

NEW BAKU AIRPORT HANGAR--Baku--Aeroflot's first arched-type hangar for large passenger aircraft has been erected at the Baku Airport. The mainline Tu-154 aircraft has been under its roof for maintenance. "This structure interests specialists because of its uncommon and innovative engineering solutions," comments V. Sadykhly, chief of the Azerbaijan Administration of Civil Aviation. "The creative collaboration of Kiev and Baku specialists, as well as airmen in our republic, has been expressed in an interesting project solution. Instead of the customary standard hangars, which are narrow for a Tu-154, they proposed that two such 'docks,' attached lengthwise and raised in height, be erected. This not only speeded up construction of the project but resulted in considerable savings in resources." [By G. Pogosov] [Text] [Moscow IZVESTIYA in Russian 18 Feb 87 p 3] 8936

Mi-26T HELICOPTER TESTING COMPLETED--Operational testing of the new Mi-26T helicopter has been completed in Tyumen. It is designed for transporting large-sized freight and equipment weighing up to 20 tons. This aircraft will be used in the construction of bridges, boreholes, and power transmission lines and in installing heavy equipment for industrial enterprises. Pilots of the Tyumen Aviation Enterprise have logged about 450 hours in the new aircraft. The helicopter stood up successfully to tests under difficult conditions in the North--it was flown in Nizhnevartovsk, Yamburg, Urengoy Nadya, and other areas. The Mi-26T handles easily, and pilots are assisted by automated equipment that was installed. The Mi-26T is liked not only by cockpit and technical personnel, but the geologists and drillers are also pleased with it. Operations enterprises in the sector are looking forward to the new aircraft. [Text] [Moscow IZVESTIYA in Russian 6 Feb 87 p 3] 8936

Ka-32T HELICOPTER TESTING--Our civil air fleet is acquiring a new rotary-wing aircraft, the Ka-32T. This multipurpose helicopter can carry either 15 persons or 3 tons of cargo for a distance of up to 650 kilometers at a speed of 200 kilometers per hour. It is equipped with a special hoist which enables it to conduct emergency rescue operations at sea. It can land on icebreakers and other vessels. A minicomputer has been installed on the Ka-32T so that it can fly in the automatic mode. As an airborne crane, the new aircraft can carry a load of up to 5 tons suspended externally. The Ka-32T has

successfully completed plant testing, and it is now due to operate for 300 to 400 hours. By summer the testing entrusted to Leningrad helicopter pilots will be completed, and the Ka-32T will receive its travel authorization for the sky. [Text] [Moscow NEDELYA in Russian No 7, 16-22 Feb 87 p 4] 8936

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## MARITIME AND RIVER FLEETS

### NEW FINNISH-BUILT 'TRANSSHelf' OIL RIG TRANSPORTER

Moscow PRAVDA in Russian 1 Jan 87 p 6

[Article by V. Chebakov: "A Giant Descends Into the Water"; first paragraph is PRAVDA introduction]

[Text] At the beginning of January a unique ship will be launched at the ship-building yard in the Finnish city of Turku. It was constructed on order of the Soviet Union by the ship builders of the Wartsila Marine firm. The name on its side is Transshelf. The ship is designed to transport marine self-hoisting drilling rigs.

A great deal of attention is being paid to exploration, particularly of oil and gas deposits, on the continental shelf. Every year our country's fleet is augmented with vessels created in close collaboration by Soviet and Finnish engineers for work on the shelf. Floating drilling and geological exploration ships, powerful cranes and suction-tube dredges and Arctic tankers and supply ships are operating under the flag of the USSR. At Vyborg, for example, Arctic self-hoisting drilling rigs are being built within the framework of cooperation. The Transshelf, with a carrying capacity of 22,000 tons--the most powerful ship of this type in the world--is designed to transport them.

The new giant, 173 meters long and 40 meters wide, has a number of special features. The vessel is semi-submersible. How, indeed, does one heave a multi-ton drilling platform onto the deck? The Transshelf accumulates ballast water in its huge tanks and submerges 21 meters under the water. The deck, with an area of 5100 square meters, goes down 9 meters into the depths. Then the heavy platform is dragged afloat onto the ship. The ballast waters are pumped out, and the cargo is standing on a dry deck.

"Of course, the Transshelf," said Veyo Keskinen, head of the Moscow delegation of Wartsila Marine, "can be used for more than just transporting marine drilling rigs and other types of superheavy cargoes."

When necessary, the Transshelf will become a floating dock for quite large vessels. Incidentally, there is also a ship-repair shop on it. I will mention further that there is an electronic computer installed on the Transshelf which ensures the gathering and storage of data on the ship and suggests to the captain

the most advantageous positioning of the cargo on the deck. Soviet navigational and radio equipment and several other systems and power units are being installed on the Transshelf.

So then, the "christening" of the Transshelf will take place at the beginning of January.

The Wartsila Marine firm has been fulfilling orders from the Soviet Union since 1932. In this time about 500 ships of various types have already been turned over to our country.

"Last year PRAVDA reported that the nuclear-powered icebreaker Taymyr was being built at a shipyard in Helsinki--the result of the joint collaboration of the USSR and Finland. How are things going with this giant?"

"The hull of the Taymyr is ready and soon it too will be launched from the dock. All the necessary equipment and instruments will be installed on it this year. Then the Taymyr will undergo preliminary trial runs. After this, the vessel will set its course for Leningrad, where the second phase of construction--assembling the "nuclear heart"--will begin." It can be noted with satisfaction that both the nuclear-powered vessel and the Transshelf are bright examples of the mutually advantageous collaboration of the two countries.

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## MARITIME AND RIVER FLEETS

### PUMA ACV OPERATING ON OB RIVER

Moscow IZVESTIYA in Russian 19 Dec 86 p 6

[Article by L. Levitskiy, IZVESTIYA correspondent: "Hovering Free"; first paragraph is IZVESTIYA introduction]

[Text] IZVESTIYA has already reported the fact that the Scientific Research Institute of Cardiology of the Tomsk Center of the Academy of Medical Sciences has been allotted an amphibious air-cushion motorship, fitted out as an "ambulance". The Puma--the series of ships is named this--will receive its baptism by fire in the Tomsk North.

I step directly from land onto the finned side of the motorship, and from it, through the hinged door--into the cabin. Everything is in readiness. I meet V. Protsenko, chief designer of the Puma, and B. Semerak, the tester. They are representatives of the Neptun Central Design Bureau. The "boss" of the amphibian is Ye. Levitskiy, my "namesake", director of the Division of Preventive Cardiology of the Institute of Cardiology.

Captain P. Strakhov starts up the engines while we sit down in the soft chairs around the operations table--his study spot. I did not detect the moment when we took off. I notice only that, at the side, the shore has left us and that the unfrozen patch of water has rushed to meet us. Beyond it there are quite tall ice-hummocks. There is no sense of movement, of acceleration, we are hovering and gliding over the ice.

Now I examine the ship more attentively. It is, really, very unusual--with air-blower fans and a narrow skirt made of strong, closely-woven black rubberized fabric. This is a flexible skirt which retains and guides the air streams and forms an air-cushion. For all that, the ship is simple, even simplistic. The control board is no more complicated than, let us say, that of a motor vehicle. It even has a classic steering wheel. Beneath it are the gas pedals.

"The engines are also ordinary--series-produced motor vehicle internal combustion," says V. Protsenko, the Puma's creator. "Each one has 120 horse power. We hope to put even more economical diesel engines on the next ships, if industry develops their output."

Although the Puma is so far a unique model, it is not the first of its kind. It was preceded by the Barsy, and then the Gepardy appeared--slightly smaller motorships.

There is still more to say about the Puma. It was conceived as a cargo-passenger ship for 1.6 tons of cargo or 16 passengers. The version was the buyer's choice. The Ministry of Health, however, ordered an "ambulance" which had no fear of shoals, crossings, swamps, snow or absence of roads. The amphibian was re-equipped in accordance with the design and aims of medical scientists. Its cabin was turned into a multi-purpose medical office with the most modern equipment, making possible full monitoring of the patient's condition, taking an electrocardiogram, if necessary, and performing active treatment in case of infarction. Three specialists make up the medical team. The motorship is able to take four patients.

Plant tests confirmed the indispensability of the Puma. It raced over any relatively smooth surface at an enviable speed of up to 65 kilometers an hour. It overcame slopes of up to 12 degrees. Prokofiy Trifonovich Drachev, chief of the Tomsk River Port, came forth as an active fighter for the air-cushion ship at the trials in Moscow. He, "holding several positions," is a candidate in economic sciences and senior lecturer at the Novosibirsk Institute of Water Transport Engineers. The subject of his research is the comprehensive transport development of Western Siberia. He argues everywhere--from the pages of IZVESTIYA, as well--that this is impossible without air-cushion equipment.

Drachev told R. Karpov, director of the Institute of Cardiology of the Tomsk Center of the Academy of Medical Sciences, academician, about the Puma. The Tomsk people managed to have it turned over to the scientists. They are working out methods of having a dispensary system for the people of remote taiga regions--fishermen, lumbermen and oil workers. With a view to this, they fitted out a floating dispensary, the Kardiolog. The large motorship, however, cannot go farther up the Ob. Yet hundreds of villages and settlements are scattered along the small taiga rivers. Here the Puma will come to the aid of the Kardiolog. Cardiological exploration will penetrate everywhere. The Puma is to prove its medical qualifications and viability under the conditions of the North in monthly trials.

Drachev is convinced: you cannot manage without the Puma and its like in Siberia. This is a vast region--a laboratory in which man learns to surmount space. Graphically and precisely put. Drachev, at the Port of Tomsk, has fixed capital worth 350 million rubles, and over 6000 workers. The workers and the structures and the equipment are fully occupied from spring to fall. Nature dictates a "bearlike" routine, a seasonal style of work and life. On the other hand, it is as if it took care of man by having cut up Western Siberia with thousands of small rivers and rivulets and various "landing strips," natural routes for amphibians. For the fleet of air-cushion ships (SVP), the navigational period will be year-round and all-weather. In addition, this is the safest and least damaging kind of transport. The Puma's pressure, for example, on the soil or on water is hundredths of a kilogram per square centimeter. A skier is harder on the earth than it is.

This means that there will be no unhealing wounds in the mossy berry peat soils nor in the unprotected tundra....

Western Siberia must be provided with air-cushion ships--this was the conclusion drawn by participants in the first All-Union Applied Science Conference on New Types of Transport, which was held in Tomsk. The organizers were Gosplan, the State Committee for Science and Technology for the country, the Ministry of the Aviation Industry and the Tomsk party obkom. Appropriate recommendations were adopted.

Proposals on the rapid development of SVP and on their extremely vital tie-in with the conditions and needs of Siberia are not new. Groups of enthusiasts in the aviation, shipbuilding and petroleum industry, and in VUZ's have succeeded in achieving quite a bit. The innovations of the Gorkiy Krasnyy Sormov and the Mari Polytechnical Institute are well known. Oil workers have learned to move drilling rigs by means of an air cushion. This method recently helped in delivering a thousand-ton block of equipment to the Tyumen tundra. Only the scientific research institutes and design bureaus of shipbuilding have perceptible practical results so far, however. The State Committee for Science and Technology allotted the Neptun Central Design Bureau funds to develop freight and passenger amphibious vessels. Two shipyards will undertake their construction. There are still a lot of unsolved problems, of course. They are connected neither with science nor technology, but stem from the sphere of planning and organization, since up to now there is no unified interdepartmental program.

"For whom are we developing SVP?" I. Martynov, chief of the Neptun Central Design Bureau, grew heated at the Tomsk conference. "There are neither orders for them nor technical demands from the buyers. The Ministry of the River Fleet seemingly has not heard about these ships...."

This is a heckling comment that the main specialists of the river sector, the West Siberian River Shipping Company, did not themselves hear. They, just as the directors of the shipping company...did not participate in the conference.

"Whatever flies does not sail. Whatever does not sail is not our affair," Drachev defines the attitude of his sector this way. "And here the medical people took the Puma."

The SVP fleet has not been born yet, and we are already splitting it up into departments. The Ministry of the River Fleet simply has no use for the complexities of the new equipment. Yet without it, caravans of huge barges, without any trouble, take millions in profit from the Ob. The country's economics and the sector's economics clearly do not coincide....

We are approaching the settlement of Samus. There is a large sheltered inlet for ships' winter lay-up, as well as a major shipbuilding and ship repair yard here. B. Semerak guides the amphibian toward the gently sloping bank near the lumber yard. A high-power shop, purchased abroad, for barge-building, is being erected on the bank of the Tom. The Siberians propose that provision also be made here at once for the construction of air-cushion ships.

The Tomsk party obkom and oblispolkom propose the creation of a scientific-production association for the building and operating of air-cushion vessels. It will include the Port of Tomsk, the Samus Yard, the Scientific Research Institute of Applied Mathematics and Mechanics and the Novosibirsk Institute of Water Transport Engineers. The Novosibirskians, using an electronic computer, have calculated over 600 variants of SVP use. Three types of ships efficient for Siberia have been determined. In addition, it has been decided to make Tomsk Oblast a testing ground for new equipment for all the sectors....

After the 46-minute trip of the Puma, I leave at the settlement. It used to take 53 minutes on the Volga. Next day I telephoned Drachev. The first trip on an air-cushion vehicle in Western Siberia had ended. For almost the entire section up to Kolpashevo, ice hummocks stood up on the Ob--the consequences of a stormy autumn. The average speed, therefore, had been only 35 kilometers an hour. Even this, though, is almost twice as fast as the motorships sail along the Ob. In the summer....

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- END -