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SOURCE As indicated

DATA ON USSR CHEMICAL AND MEDICAL INDUSTRIES

[Comment: This report presents production data on the USSR chemical and medical industries, taken from Soviet sources published from 1951 to April 1954.

General production data, followed by information on specific plants, is given for the following branches of the chemical industry: acids, ammonia, carbide, dyestuffs, fertilizers, insecticides, paints and lacquers, plastics, rubber products, and soda. Information on the medical industry, including production of pharmaceuticals, is presented in a separate section at the end of this report.

Numbers in parentheses refer to appended sources.]

CHEMICAL INDUSTRY

General

The enterprises of the Ministry of Chemical Industry USSR fulfilled the 1953 plan for gross production by 102 percent.(1) This represents three times the chemical output of 1940.(2)

The 1953 output plan of the chemical industry for consumer goods was fulfilled 100.1 percent.(1)

In the chemical industry of the Ukrainian SSR the plan for gross production in 1953 was fulfilled 103 percent.(3)

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Acids

As a result of developments in the field of chemical production, in 1940 the production of sulfuric acid was increased by 17 times over 1913.(4)

The chemical industry of the Kazakh SSR has pledged to increase its production of sulfuric acid by 9-10 times in 1955 in comparison with 1950.(5)

Riga Superphosphate Plant

The Riga plant is supplying the Klaypeda Superphosphate Plant with sulfuric acid.(6)

Voskresensk Chemical Combine

As the basic raw material for its production of mineral fertilizer, the Voskresensk Chemical Combine is using sulfuric acid which is obtained from pyrites. During the roasting of the pyrites usually up to 2.2 percent sulfur is left in the tailings of the production. The senior furnace man at the combine, Krivosheykin, has worked out a more rational system of servicing the furnace and has succeeded in lowering the content of sulfur in the tailings to 1.6 percent. As a result, the pyrites saved have increased the output of sulfuric acid.(7)

Ammonia

In 1953, the Ministry of Chemical Industry USSR fulfilled the output plan for ammonia by 101.5 percent.(1)

Stalinogorsk Chemical Combine imeni Stalin

The acceleration of technological processes has resulted in a significant increase in output in existing production areas. The output of ammonia for the period 1951-1953 was increased by 1.5 times without expanding the production area.(8)

In 1953, the production of ammonia was increased by 56.4 percent over 1950. As a result of improving the flow plans at the plant, the output of ammonia was to be increased by 7 percent [in 1954?].(9)

Carbide

Kirovakan Chemical Combine

Recently the enterprise shipped a large amount of high-quality carbide to the builders of the Stalingrad Hydroelectric Power Station. Earlier, a large consignment of high-grade carbide was shipped to the construction site of the Kakhovskaya Hydroelectric Power Station. Every day the carbide workers are exceeding their production quotas 10-15 percent.(10)

P. Oganyan, chief of the combine's carbide shop, announced that the output of carbide during the first 10 months of 1953 had doubled in comparison with the same period of 1952.(11)

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Yerevan Carbide Plant

During August and September 1953, the plant increased its output by 40-50 percent over the corresponding period in 1952.(12) For the first 15 days of March 1954, the carbide shop of the Yerevan plant fulfilled the plan 105.7 percent and the lime shop 105.5 percent.(13)

Dyestuffs

As of 1940, the chemical industry had increased the production of dyestuffs by 3.8 times in comparison with 1913.(4)

At the end of World War II, the aniline dye enterprises of the USSR were established on a new technical base. The result was that at the beginning of 1951 the capacity for production of dyes was more than 1.5 times the prewar capacity, and the number of active enterprises of the aniline dye industry had been doubled in comparison with the prewar number.

During 1953, the volume of dye production was to amount to 174 percent of the prewar level and 126 percent of the 1950 level. The volume of production of vat dyes has been increased as of 1953 by six times compared with the prewar volume and of so-called "cold dyes" (kholodinaya krasitel') during this same period by 15 times. The variety of dyes has been extended: the number of types of dyes in 1953 is 70 percent above the number available in 1940.

As a result of these and other measures, it may be possible for the aniline dye plants of the Ministry of Chemical Industry to deliver for the period October-December 1953 an additional 200 tons of dyes required by light industry. In addition, it may be possible to increase in 1954 the output of high-quality vat dyes, semifinished products for "cold" dyeing, and acid and mordant dyes for woolen fabrics by 2,200 tons, and to increase the variety of valuable dyes by 27 types.(14)

During the last few years, Soviet chemists have perfected the technology for obtaining new vat dyes of all colors which are many times more permanent than the fabric itself. To these belong the following: Vat Blue O, Vat Azure K, Vat Bright Violet K, Vat Bright Green S, Vat Bright Orange KKh, Vat Golden Yellow ZhKh, and others.(15)

Moscow Derbenevskiy Chemical Plant imeni Stalin

To fulfill the requirements for consumer goods the plant has expanded its assortment of dyes for the wool, silk, cotton, and leather shoe industries. The plant has increased the production of dyestuffs which will not fade when subjected to light or when washed in leaching agents. The Derbenevskiy Plant fulfilled the plan for 1953 on 21 December.(16)

For 1954, the workers of the Derbenevskiy Chemical Plant have pledged the following:

To increase production per square meter of production area by 15 percent in comparison with 1953 and to produce 300 tons of dyes above plan in 1954, including 50 tons by above-plan saving of raw materials and semifinished products;

To expand the variety of dyes to 171 types in comparison with 145 varieties produced in 1953;

To increase the output of dyes for home dyeing of fabrics by 40 percent in comparison with 1953.(17)

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Moscow Dorogomilovskiy Chemical Plant imeni M. V. Frunze

The plant laboratory has perfected new types of dyes. Great interest has been created by a sulfur olive dye used for cotton cloth. Laboratory tests have shown it to be a very stable color. Cloth dyed with it has a soft tint.

Dyes are not the plant's only type of production. The shops of the plant also produce auxiliary materials, such as fixing agents which help make color in cloth more permanent. One such fixing agent is "Ustoychivyy N" (stable N). It is used for various types of fabric and increases the stability of the cloth's coloration many times over.(18)

Rubezhnoye Chemical Combine

The addition of equipment to the combine is expected to result in an increase of 62 tons in 1954 in the processing of four types of vat dyes and to permit the introduction of several types of new, highly stable dyes.(14)

Dyestuffs of improved quality, which dissolve easily in water, have been developed at the combine. This has made it possible to dye any fabric easily, including silks and wools.

It is reported [source cites Voroshilovgradskaya Pravda] that during 7 months of 1953 the combine increased its gross production of dyestuffs and intermediate products 18 percent above the same period of 1952. The variety of products has been supplemented by such dyestuffs as vat red, vat pure blue, vat bright green, indigo sol bright rose, and others.

During 1953, the combine mastered the production of ten new dyestuffs. In comparison with 1950, the production of azoamino dye has increased 235 percent, asotol dyes 228 percent, and vat dyes 214 percent.(19)

Fertilizer

As a result of changes in the chemical industry, superphosphate production in 1940 was 66 times that of 1913. According to the directives of the 19th Party Congress it is planned to achieve during the Fifth Five-Year Plan an increase in mineral fertilizers of 88 percent over the amount produced during the Fourth Five-Year Plan.(4)

Prior to World War II, the quantity of mineral fertilizer produced in the USSR surpassed the prerevolutionary level by almost 5 times.(20) The chemical industry at the end of the first postwar Five-Year Plan considerably exceeded the prewar level for production of mineral fertilizers. In 1950, the output in comparison with 1940 had been increased 2.2 times for nitrogenous fertilizer, 1.9 times for phosphate, and 1.4 times for potash. It is now possible for the USSR to produce fertilizer in sufficient quantity for cotton, sugar beets, tea, and several other crops. However, an adequate level of production of fertilizers for food and fodder crops has not yet been assured.

In 1953, the USSR chemical industry supplied the country with 6 million tons of fertilizer.(21) The 1953 output plan for mineral fertilizer was fulfilled 101.9 percent. In 1953, the plan for production and increased output in comparison with 1952 was exceeded by 9 percent.(1)

The September Plenum of the Central Committee of the CPSU has obliged the Ministries of Chemical Industry and Metallurgical Industry to increase the production of mineral fertilizer to 16.5-17.5 million tons by 1959 and to 28-30 million tons by 1964.(22)

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In 1955, the output in the USSR of superphosphate in granulated forms should be brought up to 45 percent and in 1958 up to 60 percent of the production of regular-type superphosphate. Ammonium nitrate for agricultural purposes should be produced only in granulated form.(20) In 1953, plants of the USSR were to produce 2.3 times as much superphosphate as in 1940 and 3.3 times as much ammonium nitrate; 400,000 tons more superphosphate of the granulated variety was to be produced.(23)

The quantity of fertilizer which the USSR will have in 1964 will amount to half the total mineral fertilizer production of the world. This means that every 2 years there will have to be constructed and put into operation in the USSR mineral fertilizer enterprises of the same approximate capacity as those which were put into operation during all of the prewar Five-Year Plans taken together.(24) This will also require improved output at existing plants. In particular, it is necessary to complete the construction of the Rustavi Nitrogenous Fertilizer Plant in order that the production of this enterprise may be used in the fields of Georgia.(25)

New plants will be built in the central regions of the European part of the USSR, the Ukrainian SSR, the Belorussian SSR, the republics of Central Asia, the Transcaucasus, the Baltic area, and western and eastern Siberia.(20)

The chemical industry will put out the following new types of neutral and alkali fertilizers heretofore not used in the USSR: calcium-ammonium nitrate, granulated nitrogenous fertilizers which will be distinctly superior to regular ammonium nitrate; potassium nitrate, an alkaline nitrogenous fertilizer which is more adaptable for use with wheat, flax, vegetables, fruits, berries, and other crops; and fused magnesia phosphate, an alkaline nitrogenous fertilizer which reduces the harmful acidity of the soil and also supplies the crops with magnesium, the need for which is especially great in normal and highly sandy soils.

Concentrated fertilizers, such as ammofos (an ammonium phosphate fertilizer), double superphosphate, and dicalcium phosphate dihydrate will also be produced.

The basic type of calcium fertilizer in the USSR is calcium chloride. It is the fertilizer most generally used in USSR agriculture. But for individual crops which are highly sensitive to chlorine, this type of fertilizer is not satisfactory. Therefore, for crops such as citrus, tobacco, and tea, the production of chlorine-free types of calcium fertilizers, such as potassium sulfate and potassium-magnesium sulfate, has been organized.(22) This work has been carried out by a group of workers at the Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR. The fertilizer comes in the form of crystals which contain nitrogen, phosphorus, and potassium. The quantity of nutritious substances contained in it amounts to 77 percent, which is a significant increase compared with all other types of concentrated fertilizers known heretofore.(26)

In order to lower transport costs, the chemical industry will develop the production of concentrated fertilizers. The basic phosphate fertilizer, superphosphate, contains 19-20 percent P_2O_5. Concentrated, so-called "double" superphosphate is 45-46 percent P_2O_5. Another kind of concentrated phosphate fertilizer-precipitate contains 32-44 percent P_2O_5. Concentrated phosphorous nitrogenous fertilizer (ammofos) is 45-52 percent P_2O_5 and 12-15 percent NH_3.(24)

During the first quarter of 1954, the USSR chemical industry was to produce for agriculture more than 1.7 million tons of mineral fertilizers, and ship up to 850 carloads daily to kolkhozes and sovkhozes. In spite of its

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importance, this task has been unsatisfactorily carried out since the beginning of the year. As of January, full consignments of nitrogen fertilizers had not been received by the Krasnodar Kray, the Azerbaydzhan SSR, and the Georgian SSR; potassium fertilizers by the Sverdlovsk, Chelyabinsk, and Novosibirsk oblasts; and phosphorite ash by the Ukrainian SSR and Belorussian SSRs.

Serious oversights occurred in determining the resources of chemical fertilizer production for 1954. The Chemical Products Distribution Division Gosplan USSR, when planning the consignment of phosphorite ash for agricultural area, failed to take account of the demand for it by the enterprises of the chemical industry. To accelerate the process of preparing superphosphates, as well as for other needs, the industry requires more than 70,000 tons of phosphorite ash.(27)

The production of rough ground lime has been poorly organized. In Vladimirskaya Oblast, where there is a need for 200,000 tons, five enterprises of local and cooperative industry are annually processing a total of about 50,000 tons of rough ground lime. Its cost is unreasonably high. In other oblasts the matter of rough ground lime production is even worse.

The September Plenum of the Central Committee of the CPSU guaranteed a significant increase, beginning in 1954, in the production of lime at enterprises of the construction materials industry, local industry, and cooperative industries, and a lower output cost for lime.

There is the possibility of increasing the production of rough ground lime by the utilization of tailings obtained from the crushing of limestone. The tailings amount to 10 percent of the total mass of crushed material. A third of the tailings consists of pieces of 3-7 millimeters in diameter and 16-17 percent of pieces of 1-3 millimeters in diameter. Thus, about half of the tailings, which are less than a millimeter in diameter, may be used as fertilizer without additional grinding. The cost of one ton of lime from tailings will be 7-10 times lower than at present.

If only a small fraction of screened tailings are utilized, then it will be possible to obtain a large quantity of rough ground lime annually. At eight crushed stone plants of the Ministry of Railways USSR it will be possible to obtain 85,000 tons of rough ground lime; 25,000 tons can be obtained from the crushed stone plants of the Ministry of Construction Materials Industry USSR; 20,000 tons from the crushed stone plants of the Ministry of Motor Transport and Highways USSR. The Mine Administration of the Ministry of Ferrous Metallurgy can yield about 300,000 tons.

Thus, these sources will be able to yield about 425,000 tons a year and by grinding operations after screening, an additional amount can be obtained.(28)

Lime meal, consisting mainly of calcium and magnesium carbonate, has proven very effective for the acid soil of the Karelo-Finnish SSR. The Ministry of Construction Materials Industry Karelo-Finnish SSR has requested the government of the republic to organize the production of lime meal for the needs of agriculture at the Letnerechenskiy Ground Lime Plant. The Council of Ministers of the Republic has endorsed this measure and has obliged the ministry to process 10,000 tons of lime meal in 1954 for agricultural uses in the republic. It would be desirable for the Ministries of Agriculture and sovkhozes of the republic to take a more active part in this project. Sel'khozsnab (Agricultural Supply Office) of the Ministry of Agriculture is scheduled to receive during 1954 only 1,500 tons of lime meal, which is sufficient for only 500 hectares.(29)

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Aktyubinsk Chemical Combine

The level of production of superphosphate at this enterprise was doubled during 1953.(30)

Alaverdi Chemical Plant

The plant has significantly increased the processing of mineral fertilizers. In 1954, the increase in production of superohosphate in comparison with 1953 will be 15.4 percent. This will be achieved exclusively with present equipment and without additional capital investment.(31)

For the first half of January, the superphosphate shop of the Alaverdi Plant processed 110 tons of high-quality mineral fertilizer above plan.(32)

Chirchik Electrochemical Plant

The annual plan for 1953 was fulfilled 111 percent by the Chirchik Plant.(33)

In 1953, the ammonium nitrate shop of the plant produced 33,300 tons of ammonium nitrate above plan.(1)

Workers of the Chirchik Electrochemical Plant undertook the task in 1954 of increasing the output of ammonia by 27 percent over the 1953 plan.(34)

Dzhambaul Superphosphate Plant

In 1953, the plant was to have produced 30 percent more superphosphate than in 1952.

The plant pledged that half its output during the first quarter of 1954 would be fertilizer of the granulated variety.(35)

About 300 tons of crushed phosphorite ore are treated every 24 hours in the superphosphate shop of the Dzhambaul plant. After processing with sulfuric acid solvents during the same 24-hour period, 500 tons of finished fertilizer are stored in the warehouses.

The plant has also mastered the production of ammofos, which is more than 70 percent nitrogen and phosphorus.(36)

The new year was met by the plant with great successes. It completed the annual 1953 plan for processing fertilizer 23 days early. The amount of superphosphate produced above plan is sufficient for fertilizer for 35,000 hectares of industrial crops.(37)

Dnepropetrovsk Coke Chemical Plant imeni Kalinin

Since the beginning of March 1954, the plant, which is located in the Dnepr River area, has produced 20 tons of mineral fertilizer above plan. So far in 1954, the plant has increased the output of this product by 22 percent without increasing its producing area.(38)

Kara-Tau Mining-Chemical Combine

As a result of irrational, nonproductive utilization of mining equipment, this combine produces a product of low quality. Because the phosphorite meal which it produces is poor in phosphorus, the plants of Central Asia are compelled to bring in apatite concentrate from the Kola Peninsula.(20)

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Some criticism is deserved by the Kara-Tau Combine regarding its shipments of phosphorite meal to the Aktyubinsk Combine. In November 1953, for example, it failed to fulfill its shipment quota by 1,000 tons.(30)

Kemerovo Nitrogenous Fertilizer Plant

Carloads of mineral fertilizer are sent from the plant to various parts of the country -- to the Far East and, in Central Asis, to Altayskiy Kray and to Novosibirskaya Oblast.(39)

Kirovakan Chemical Combine

The combine failed to fulfill its plan for 1953 because of a shortage of electric power.

The combine is the only producer of cyanamide powder for use on cotton crops.(40)

Kokand Superphosphate Plant

The superphosphate shop of the plant is in continuous operation. [On the day that workers at the plant were interviewed by a reporter from Pravda Vostoka, the shift operating at the time had produced 340 tons of superphosphate for the day. This was several tens of tons above plan.](41)

Konstantinovka Chemical Plant

The Konstantinovka plant has been able to attain burning of only 200 kilograms of pyrites per square meter of furnace area, compared with 222 kilograms for the Voskresensk Chemical Combine, in spite of the fact that both enterprises used identical equipment.(20)

Lisichansk Chemical Plant

Although the 1953 plan for the Ministry of Chemical Industry USSR as a whole was fulfilled, the Lisichansk Plant failed to fulfill its plan for the production of nitrogenous fertilizer.(20)

Lopatinskiy Phosphorite Mine

Extraction of phosphorite at the Lopatinskiy Mine has been increased 33 percent over the 1940 volume. First-class production was 12 percent above plan. The Lopatinskiy Mine produced about 40,000 tons of high-grade ore above plan in 1953, and completed the annual plan on 15 October. The Ministry of Chemical Industry USSR has worked out measures whereby about 100,000 tons of additional phosphorite meal can be processed each year from waste products.(23)

"Maardu" Chemical Combine (Tallin)

The "Maardu" plant failed to fulfill its 1953 plan for the production of phosphoric meal.(20)

Moscow Electrolysis Plant

The plan for January and February 1954 at the plant was fulfilled 106.5 percent for fertilizer. Still better results are expected in March. (42)

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Moscow "Kleytuk" Plant

In honor of the 36th anniversary of the October Revolution the workers of the plant pledged to produce an above-plan 350 tons of fodder meal and 550 tons of nitrogenous fertilizers.(43)

Nevskiy Chemical Plant (Leningrad)

During 1953, the Nevskiy plant produced more than 300,000 tons of high-quality fertilizer for the kolkhozes of the Baltic region, the Ukrainian SSR, and Central Asia.(44) Tens of wagons of superphosphate were shipped to Khar'kovskaya, Kamenets-Podol'skaya, Odesskaya, Sumskaya, and other oblasts of the Ukrainian SSR. In comparison with 1950, production of superphosphate was increased by more than 20 percent.(45)

Riga Superphosphate Plant

The Riga plant fulfilled its annual plan for 1953 on 14 December.(46) During 1953, the plant was to have produced four times more than in 1947.(47)

In 1954, it is planned without further expansion to raise the capacity of the enterprise still further and to increase the output of superphosphate by 28 percent. To accomplish this, additional furnaces and chambers for roasting sulfur will be installed in the existing producing areas. The superphosphate shop will increase the speed of feeding apatite meal into the chamber.(46). New and original apparatus has been introduced into the operation of the superphosphate chamber, the productivity of which is more than three times that of the former chambers.(47)

The Riga plant supplies fertilizer not only in Latvia, but also in Lithuania, Estonia, a number of oblasts of the RSFSR, and the Belorussian and Ukrainian SSRs. During November 1953, there were shipped to the Ukrainian SSR alone more than 300 carloads of superphosphate.(48) From 16 to 20 March 1954, the Riga Plant shipped about 40 carloads of superphosphate of above-plan production.(49)

Stalinogorsk Chemical Combine imeni I. V. Stalin

The Stalinogorsk plant, the largest chemical combine in the USSR, supplies mineral fertilizers for agriculture. In addition, it supplies industry with a number of important chemical products, such as sulfuric and nitric acid, caustic soda, bleaching powder, and ammonia. Production in 1953 was 1.5 times the level of 1940.

Competent cadres of qualified chemical workers, engineers, and technicians have been developed at the combine. More than 300 men have worked there since it began operation 20 years ago, and about 1,500 men have worked there more than 15 years.

The annual plan for 1953 of the combine was fulfilled on 20 December. About 8 thousand tons of above-plan mineral fertilizers were produced.(8) [Khimicheskaya Promyshlennost' (Moscow), No 2, 1954, reports that the combine produced 5,100 tons of mineral fertilizer above plan in 1953.] The amount of fertilizers for agriculture produced by the combine, in comparison with 1950, was up 15.6 percent in 1953. As a result of improved flow plans at the combine, the output of nitrogenous fertilizer was to be increased 15.3 percent [in 1954?].(9)

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The workers of the combine pledged to exceed the plan for fertilizer output in 1954 by 1.6 percent.(17)

The acceleration of technological processes has resulted in a significant increase in output in existing production areas. During the next 2 years, the output of fertilizer will be doubled. In 1954, the combine will begin production of granulated fertilizer.(8)

Vinnitsa Superphosphate Plant imeni Sverdlov

The Vinnitsa plant has fulfilled the September 1953 plan by 110.8 percent and has shipped out hundreds of tons of above-plan superphosphate.(50)

At present, the plant is shipping 31 percent of its superphosphate in granulated form, and by the end of 1954 will be shipping out only the granulated variety.(51)

Voskresensk Chemical Combine imeni V. V. Kuybyshev

This combine, which is the largest processor of phosphate fertilizers in the USSR, in conformance with the tasks established for the chemical industry by the September Plenum of the Central Committee of the CPSU, made the following pledges for 1954:

To supply agriculture with 12,000 tons of mineral fertilizer above plan;

To increase the output of granulated superphosphate by 19,000 tons;

To lower expenditures for raw materials, fuel, and electric power by 800,000 rubles;

To reduce the cost of production by 3 million rubles;(52)

To increase the output of granulated superphosphate by 44,000 tons over the amount processed during the past year, exceeding the 1954 plan by 18,000 tons.(17)

The Voskresensk Combine has adopted a schedule which will enable it during 1953 to produce twice as much superphosphate as in 1940 and more than 3 times as much phosphorite meal. About 40 of this percent will be granulated superphosphate. In the superphosphate shop of the combine a new method has been developed for cooling the product when it is removed from the chamber. This results in an increase in the content of phosphoric anhydride to 19.8-20 percent instead of the standard 18.7 percent.(23)

Insecticides

Until World War II, the USSR chemical industry produced only inorganic compounds, the production of which during the next few years should be increased. However, greater increase will occur in the production of organic compounds developed by Soviet chemists and biologists.(24)

According to requirements established by the September Plenum of the Central Committee of the CPSU the industry, during the next 2 or 3 years, is to double the production of toxic chemicals, especially DDT, hexachloride, and granozan, and to become familiar with the production of phosphoro-organic preparations.(22) A new phosphoro-organic compound, NIUIF-100, destroys blight which attacks citrus crops, and as a result the yield has been tripled.(24)

In 1953, the plan for production and increase in output in comparison with 1952 for various insecticides was exceeded as follows: DDT, 42.8 percent; hexachloride, 37.4 percent; and granozan, 59 percent.(1)

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Among the many chemical means of fighting agricultural blight available in the USSR up to now, the most popular among agronomists and kolkhoz workers is anabasine sulfate. As a result of the labors and discoveries of Academician Orekhova and P. S. Massagetov over a period of 20 years, anabasine sulfate has been successfully used for protection against blight. Anabasine sulfate is available only in the USSR, inasmuch as in other countries and states the raw material base is lacking.

In the USSR this valuable preparation is one of those which are in insufficient supply. The raw material used for its production is obtained from the free-growing anabasic brushwood, thickets of which were found only in Kazakhstan. These thickets guarantee an output of anabasine sulfate which satisfies no more than 13-14 percent of the requirements of agriculture in the USSR.

Recently, it was discovered that large thickets of this brushwood grow in the Turkmen SSR, in the desert areas of Tashauz Oblast. A study of the Turkmen raw material has shown that it surpasses the quality of the Kazakh SSR product by 1.5 times. A survey of the supplies of the material has indicated that its use will increase the output of anabasine sulfate by 2 or 3 times the amount that is currently available, and that there is a prospect for a still greater increase..

Since the anabasine sulfate is not used in medicine, it has up to now been produced in only one plant of the Ministry of Health USSR. In 1948, this ministry attempted to show that the anabasic thickets in the Turkmen SSR were useless. This was attributed to the low quality of the material and its unsuitability for processing in plants. When this view was disputed by a special commission of the Academy of Science USSR, it was maintained that the thickets were located in remote areas from which it would be necessary to transport the material by plane. This argument was also disputed. The thickets of anabasine grow close to a heavily populated oasis and the center of the rayon, Kunya-Urgench and Leninsk, from where the raw material can be delivered without great difficulty to the railroad and transported to the plant.

There are no obstacles to the utilization of the new raw material, but meanwhile the Ministry of Health USSR from year to year fails to fulfill the state plans for the production of anabasine sulfate, because of a lack of raw material.(53)

Alaverdi Chemical Plant

In 1954, 26 percent more toxic chemicals will be processed at the plant in comparison with 1953 through maximum use of available equipment.(31)

Dzhambaul Superphosphate Plant

In 1953, this plant was to have produced 170 percent more chemical agents for combatting pest and plant diseases than in 1952.(35)

Moscow "Kleytuk" Plant

In 1953, 500 tons of DDT for use in agriculture were to have been produced at this plant.(43)

Nevskiy Chemical Plant (Leningrad)

This enterprise has begun the production of fluosilicate solution for use against agricultural pests.(44) In comparison with 1950, the production of sodium fluosilicate has been increased by at least 30 percent.(45)

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Yerevan Chemical Plant (Ministry of Local Industry Armenian SSR)

As a result of the mechanization of production at the plant, the output of hexachloride dust (dustageksokhloran) has been increased 10 times.(10)

Paints and Lacquers

The Minister of Chemical Industry USSR has stated that in 1953 the production of paints in the USSR will be 174 percent of the prewar level and 126 percent of the 1950 level.(14)

In 1951, a formula for roofing paint based on coal-tar lacquer as well as the technology for its production and use was developed at the Leningrad Institute of the Academy of Municipal Services. Called "Kuzbass paint" (Kuzbasskrask), it consists of coal-tar lacquer (65 percent) and iron oxide (35 percent).

In Leningrad, Kuzbass paint and the chemically stable enamel DP are being produced at Chemical Plant No 2 of the Administration of Local and Fuel Industry of Lengorispolkom (Leningrad City Executive Committee). In 3 years the plant has shipped out more than 2,000 tons of paint.

The chemically stable enamel DP is used as a primer and is composed of the lacquer "ethinol," which is a waste product of the synthetic rubber industry, and iron oxide, ground on chloroparaffin.

The development of a domestic industry of synthetic tars has resulted in the use on building facades of a new material, vinyl perchloride (perkhlorvinilovyy) tar. This gives a coat resistant to the action of water, chemical reagents, and the atmosphere. Vinyl perchloride paint was first used in 1945 by the laboratories of the Academy of Architecture USSR. The Leningrad Institute of the Academy of Municipal Services has developed an improved formula for the paint and has also improved the technology for its production and use.

The composition of the paint, as worked out by the institute, is as follows: 6 percent vinyl perchloride tar, 54 percent solution (solvent or xylene), and 40 percent pigments. The following pigments may be used: ochre, Prussian red, iron oxide, umber, chromic oxide, and ultramarine. For whitening pigments, chalk, white lead, or lithopone may be used.

Production of this paint has been mastered by Leningrad Chemical Plant No 1 of the Administration of Local and Fuel Industry of the Executive Committee of the Leningrad City Soviet, by the Plant "Khimprodukt" of the Mosgorispolkom, and by the Skoropuskkovskiy Plant (Moscow Oblast) of the Ministry of Local Industry RSFSR.(54)

Kutaisi Lithopone Plant

In 1954, total output at the plant will be increased by 13.2 percent over the plan for 1953. This will include an output increase of 11.2 percent for lithopone and of 15 percent for oil pigment paste. The plan for 1953 was fulfilled on 14 December.(55)

Leningrad State Plant "Krasitel'"

By the end of 1953, the plant was to have produced 800 tons of oil paints above plan and was to have saved about 50 tons of raw materials.(56)

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Molotov Plant imeni Ordzhonikidze

The plant fulfilled the 1953 plan by 21 November and shipped 125 tons of paint, which was processed above plan, to enterprises of the light industry.(57)

Yaroslavl' "Pobeda Rabochikh" Plant

During August and September 1953, the plant maintained an uninterrupted output of nitro enamels which are used for painting light-weight motor vehicles and trucks. However, the requirements for enamels in September were only half fulfilled.

For some years the plant has been studying, but has by no means mastered, the output of cherry and dark blue colors for painting ZIM and Pobeda vehicles.(58)

Yerevan Lacquer and Paint Plant

All technical and economic indexes for 1953 were completed at the plant by 10 October 1953. Production costs dropped 1.1 percent below the plan, labor productivity increased 14.1 percent, and above-plan profits amounted to 70,000 rubles. In 1952, the plant produced ten varieties of paints and at present is producing 15 varieties. In 1954, it is planning to master the production of nitro enamel and furniture lacquers.(59)

The Yerevan Plant pledged to complete the plan for the first quarter of 1954 on March 14. The January program was fulfilled 111.7 percent.(60)

In the Armenian SSR there are rich deposits of first-class colored earths and tuffs -- yellow, red, orange, cinnamon, black, and partially green -- and also first-class natural "sangin," which make highly desirable drawing materials for artists. An unknown quantity of this material is used by the Yerevan Lacquer and Paint Plant exclusively in house paint.

The Yerevan Plant can easily put into production so-called lacquer oil or petrol of various fractions. Very simple equipment is required for the distillation of this product from kerosene.(61)

Plastics

In December 1953, a conference of workers of the Soviet plastics industry was held to discuss problems having to do with expanding and improving the plastics industry in order to fulfill consumer goods requirements. During the discussion, the group considered measures to be taken to fulfill the 1954 plan for consumer goods, which includes an over-all production increase of 35 percent over 1953, a 52-percent increase in production of celluloid articles, a wider variety (120 new kinds of items), and improved quality.(17)

In the laboratory for the study of the chemical resistance of materials of the Moscow Institute of Chemical Machine Building, much research is being carried out on the production of a new type of plastic called asbovinyl, which has good anticorrosive properties.

Asbovinyl is a mixture of ground asbestos and a binder substance, ethynol lac, which is a chemical by-product.

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The process of manufacturing asbovinyl is simple. Proper amounts of ethynol and asbestos are placed in a mixing machine. The mixture is stirred without heating for 1 1/2 hours until a homogeneous substance is obtained. Asbovinyl acquires chemical stability in hardening, after which there is no change in properties in temperatures ranging from minus 50 to plus 110 degrees.

Because of the simplicity of its manufacture, asbovinyl can be prepared directly by the consumer plant.

The new product is used in making various kinds of tubes, T pipes, fittings, and other parts of chemical apparatus.

Upon application to the surface of metal or ceramic articles, asbovinyl adheres well and protects such items from corrosion.

Experiments in the long use of apparatus, parts of which have been covered with asbovinyl resin, have given good results. A coating of asbovinyl permits a saving of a considerable amount of stainless steel, ceramics, lead, and other nonferrous metals in the various branches of industry.(62)

Tbilisi Plant "Plastrezina"

The plant fulfilled the 1953 plan for wholesale production by 21 November. By the end of the year, 15 tons of above-plan products were to have been processed.(63)

Vladimir Chemical Plant

As a result of inadequate direction by its main administration, this plant failed to fulfill the 1953 plan for the production of plastics.(1)

Rubber Products

During the Fifth Five-Year Plan, the increase in synthetic rubber output in comparison with 1950 will amount to 82 percent.(4)

In 1953, the plan for production and increase in output in comparison with 1952 in the rubber industry was exceeded by 13 percent for synthetic rubber and by 7 percent for automobile tires.

The Main Administration of the Technical Rubber and Rubber Footwear Industry (Glavrezinprom) annually conducts a conference of chief engineers of plants, chiefs of technological construction divisions, and plant laboratories. At these conferences the work of the past year is discussed, measures are approved and disseminated to other enterprises, and work plans are drawn up for scientific-research institutes, technological construction divisions, and plant laboratories.

The Technical Administration of the Ministry of Chemical Industry USSR, Glavkauchuk (Main Administration of the Rubber Industry), the All-Union Scientific-Research Institute of Synthetic Rubber (VNIISK), Resinoproekt [Rubber Products Plant Planning Division?], and other organizations also participated in the 1953 conference.

For detailed review of 1953 operations and consideration of plans for 1954, four sections were organized. The sections were assigned the appraisal of the work of each technical construction division and each plant laboratory.

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Approved tasks were recommended for adoption by other plants. Necessary changes and additions were made in the projected plans of the technical construction divisions and plant laboratories. Suggestions were made for further improving the activities of the divisions and laboratories.(1)

Kishinev Chemical Plant (Ministry of Local Industry Moldavian SSR)

According to plan, 80 percent of this plant's production should be of first and second class. In practice, it has only produced 4 percent of first class and 34 percent of second class. Particularly poor is the quality of women's rubber boots, which is the basic type of production of the plant.

The plant has done very poorly in adapting itself to the production of new types of articles. Despite a large demand from consumers for masticated rubber coats, the plant has so far not mastered this type of production. The plant at times has managed to produce up to 45,000 square meters of masticated rubber. Recently, none has been produced because of lack of raw material. For the same reason, the production of 40,000 pairs of women's rubber boots has been disrupted.(64)

Leningrad "Krasnyy Treugol'nik" Plant

As a result of inadequate direction by its main administration, the plant has failed to fulfill the 1953 plan for the production of rubber products.(1)

Leningrad Technical Rubber Products Plant

The Leningrad plant will produce 380,000 more automobile fan belts and 120,000 more belts for agriculture in 1954 than in 1953.(65)

Improved hose production has also been instituted at the plant. The production of pipes for automatic pumps has been organized, employing a method of braiding rather than the method used heretofore.

A technological process has been perfected and is being used in the manufacture of benzine-resisting hoses of improved construction and a machine for coating the connecting part (shtutser) on drill sleeves. An experimental consignment of braided steam-conducting hoses has also been manufactured at the plant. These hoses have given good results.

In 1954, production will be initiated of a consignment of braided steam-conducting hose, which will be throughly studied under conditions of actual use, and materials will be prepared for the issuance of a GOST. The economic effect of beginning production of such a hose will result in a saving of more than a million rubles at the Leningrad Plant alone.(1)

Moscow "Kauchuk" Plant

New, more economical mixtures, which have decreased the use of rubber and other scarce types of raw materials, have been prescribed for the "Kauchuk" Plant. Thus, the plant's mixture for hydropeat (gidrotorfnyy) hoses now contains 10 percent less rubber than formerly. This method does not lower the quality of the mixture.

The plant makes use of a great quantity of so-called "reclaimed" rubber. In the bulk processing of pressure, pneumatic, steam, and other hoses, the content of reclaimed rubber in the raw material has been increased to 40 percent. Reclaimed rubber is widely used for the production of conveyer belts.

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The same is true for such items as automobile and household carpets, for which no natural rubber at all is being used now. This year [1952] the rubber mixture contains an average of 37-38 percent of reclaimed rubber, which does not reduce the quality of the product but does lower its cost significantly.(66)

The "Kauchuk" Plant shipped gasoline-resistant hose, power hose, and hose for oxygen and for work with pneumatic tools and mechanisms to the Stalingrad Hydroelectric Power Station project. A total of more than 6,000 meters of hose were to be shipped.

With this shipment, the plant fulfilled about 70-80 percent of its order for many types of production. Out of 4,000 meters of pneumatic hose which were to be manufactured for enterprises during 1953, 3,100 meters were sent out. The order for the Kuybyshev Hydroelectric Power project was also being fulfilled. More than 800 meters of hose out of a planned total of 1,000 for 1953 were already manufactured for the project.(67)

The plant has pledged to increase in 1954 the volume of molded and nonmolded articles by 15 percent over 1953.(65)

Among the measures introduced in 1953 by the rubber products industry and recommended for adoption by the plants were several methods for improving hose production, including the use of a machine at the "Kauchuk" Plant for the mechanical application of insulation to coils, cables, and strips; a machine for stripping insulation from coiled sleeves up to a length of 10 meters; a device for covering pressure hoses at large combines and for coiling lengths of long pressure hoses. The plant has also adopted the use of noiseless, four-motor seaming blocks, a device for greasing and drying braided hoses up to 2 meters in length, a machine for rerolling coiled cable, and a number of other machines.

An experiment of great practical significance has been the creation of a device for supplying the hose combine with 20-meter lengths of fabric and rubber, with the aid of belt conveyers, from a sheeting calendar installed immediately adjacent to the combine.

Equipment for the production of mandrels for conveyer belts has been developed, produced, and assembled at the "Kauchuk" Plant. In 1954, with the mechanization of the process for lining conveyer belts the production of conveyer belts will be completely mechanized at the plant.

The plant has undertaken the building of distributors for automatic control of hydraulic vulcanizing presses, set up for series production. The first consignment was produced in 1953 and the output will be considerably increased in 1954. It is anticipated that in the next 2-3 years they will be available for use with all the presses in industry.

The "Kauchuk" Plant has also begun to employ high-frequency heating of stock for shaped articles before vulcanizing, and has designed an electronic regulator for the temperature of the plates of the electropresses.(1)

Sverdlovsk Technical Rubber Products Plant

The plant has instituted a method for assuring a significant increase in the durability of V-shaped fan belts by means of mechanized cutting of notches (zub'). Such notched construction decreases the heat-generating factors in the belts when in use. The Scientific-Research Institute of the Rubber Industry (NIIRP), in conjunction with the Sverdlovsk plant, has installed

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experimental machined and grooved belts in automobiles; the value of notching the belts has been confirmed. In 1953, the Sverdlovsk plant designed and manufactured a special machine for this purpose.

The plant has also worked out a method of selecting the proper size of cord belt for given conditions of operation and has set up an instrument for automatic measuring of the durability of these belts.

An original device has been constructed at the Sverdlovsk plant for locking the vulcanizing form, permitting vulcanization in boilers and an uninterrupted process of vulcanizing shaped articles through the automatization of the overcharging of the pressform.(1)

Soda

By 1940, the national production of caustic soda was increased by four times in comparison with 1913. According to the directives of the 19th Party Congress it is planned during the Fifth Five-Year Plan to increase the production of caustic soda by 79 percent and of calcined soda by 84 percent in comparison with 1950.(4)

The norms for the consumption of caustic soda in the USSR for 1952 were decreased in comparison with those for 1949 as follows: in the production of aluminum oxide for aluminum, 26.5 percent; of viscose silk 11.4 percent; and of synthetic phenol, 7 percent.

At the same time, the norms of consumption for calcined soda were also considerably decreased: in the production of aluminum oxide, 53.2 percent; of bicarbonate of soda, 9.2 percent; and of chemical caustic soda, 10.4 percent.

At one aluminum plant, consumption of caustic soda in aluminum oxide production was 34 percent lower in 1952 than in 1948. In another aluminum plant of the Ministry of Nonferrous Metallurgy, where calcined soda is used to produce aluminum oxide, the consumption of soda was reduced by 60 percent in the period 1948-1952.

In the production of window glass, the present consumption norm provides for the inclusion of an amount sodium sulfate equal to 50 percent of the total amount of alkali in the mixture. If this amount is raised to 54-56 percent of the total alkali, the consumption of soda for window glass can be reduced 12-15 kilograms per ton.

In plants of the food industry in 1951, the consumption of calcined soda per ton of glass jars was 96.7 kilograms and the consumption of sodium sulfate 291 kilograms. In the third quarter of 1952, the consumption of calcined soda dropped to .6 kilogram as a result of raising that of sodium sulfate to 396 kilograms.(68)

In 1953, the plan in the soda industry for production and increased output in comparison with 1952 was exceeded 15 percent for caustic soda and 19 percent for calcined soda.(1)

Berezniki Soda Plant, Donets Soda Plant (Verkhneye), and Slavyansk Soda Plant

In 1912, at the Donets Soda Plant, large operations were begun with large-scale equipment, leading to the creation in 1913 of a new element, Type E, having a productivity of 260-280 tons per 24-hour period. Although the reconstruction of the Donets plant in 1913 was still not fully completed, an

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output of soda of 92,000 tons per worker and per reserve element was achieved. This amounted to almost 280 tons per 24-hour period.

The Berezniki plant possessed two elements (one of which was a reserve element) and no large reconstruction was undertaken. However, it too almost doubled the production of soda between 1900 and 1913. During this period there was also a significant increase in productivity at the Slavyansk plant.

Production of Calcined Soda
(In tons, in round numbers)

Year	Donets Plant	Berezniki Plant	Slavyansk Plant	Total
1900	37,300	24,600	14,600	76,500
1905	48,000	25,700	13,200	86,900
1908	63,000	34,800	11,300	109,100
1910	75,300	36,000	21,200	132,200
1911	86,500	39,800	21,900	148,200
1912	91,800	44,900	27,500	164,200
1913	92,300	40,800	26,800	159,900
1914	88,600	43,000	25,200	156,800

During the war years, the output of soda was significantly decreased. In 1915, it amounted to 127,000 tons, in 1916, to 136,000, and in 1917, to 102,000 tons. A large reduction of soda output occurred at the Slavyansk plant (from 26,800 tons in 1913 to 4,100 tons in 1917). A rather large part of the calcined soda was converted to caustic, at the Donets and Berezniki plants by the ferrite method, and at the Slavyansk plant by the lime method. Small quantities of calcined soda were converted to sodium bicarbonate.

At the beginning of World War I, soda production in Russia, although quantitatively inferior to that of the large West European countries, attained the technical level of the best plants using the Solvay process. The reconstruction of the Donets plant and the installation of a powerful Type E element created the possibility for a further increase in production.

However, foreign intervention and the lack of power and fuel brought the plants to a complete standstill. The Berezniki plant remained inoperative for about a year (1919), the Donets plant for 2 years (1919-1921), and the Slavyansk plant for more than 6 years (1920-1926).

The prewar production level was attained by the Donets Soda Plant in 1926, by the Berezniki plant in 1927, and by the Slavyansk Soda Plant in 1928. The over-all prewar level of production was attained in 1927.

Production of Calcined Soda, 1920-1928
(In tons, in round numbers)

Year	Donets Plant	Berezniki Plant	Slavyansk Plant	Total
1920	Inoperative	7,800	Inoperative	7,800
1921	2,500	7,400	"	9,900
1922	18,600	17,100	"	30,700
1923	40,600	14,200	"	54,800
1924	57,400	20,700	"	78,100

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Year	Donets Plant	Berezniki Plant	Slavyansk Plant	Total
1925	66,200	31,800	Inoperative	98,100
1926	81,600	39,000	"	120,600
1927	107,600	41,500	15,500	164,600
1928	141,700	41,000	24,300	207,000

Reconstruction of the Donets Soda Plant, begun in 1912-1913, was interrupted by World War I. At that time the plant had two elements, of which one was operative and the other was in reserve. Installation of a third element had been begun.

The reconstruction of the Donets plant was resumed, as was that of the Berezniki plant, which also possessed two elements. Work on the installation of a third element was completed in 1928. In 1930, Donsoda processed 158,000 tons of calcined soda, almost 172 percent of the 1913 level. The Berezniki Plant processed 68,000 tons in 1931, or 154 percent of the 1913 level. Caustic soda and sodium bicarbonate shops had also been set up.

The Slavyansk Soda Plant, using the Honigmann system, achieved a capacity of 25,000-27,000 tons. Until 1927 it was inoperative, but after beginning production once more, the plant quickly increased its production of soda and in 1928 had almost reached the prewar level, and in 1930 surpassed it.

In the process of its re-establishment, a large part of the plant's old apparatus was replaced with more modern equipment. In the filtration department, in place of the periodic Nutsch filters, continuous rotary vacuum filters were installed; in the calcining department, in place of the roasters and vertical mechanical furnaces, drum kilns were installed. The lime kilns were mechanized and a new distillation element of the Solvay type was installed. In addition, all the old Honigmann distillation and absorption apparatus were replaced. Of the old Honigmann apparatus, only the carbonizers were retained and their number was increased.

Production of Calcined Soda, 1929-1935
(In tons, in round numbers)

Year	Donets Plant	Berezniki Plant	Slavyansk Plant	Total
1929	161,800	48,300	30,000	230,100
1930	158,400	62,700	40,000	261,000
1931	163,800	68,600	41,000	273,400
1932	178,000	66,200	39,900	284,100
1933	218,700	61,500	44,100	324,300
1934	260,000	84,600	51,500	396,100
1935	267,000	97,000	58,000	416,000

During the period 1929-1935, the increase in production of soda, based on 1929 as 100 was as follows: 113.5 in 1930, 118.0 in 1931, 123.0 in 1932, 140.8 in 1933, 172.1 in 1934, and 180.9 in 1935.

All the reconstruction, particularly at Donsoda, made possible an output of soda at the beginning of World War II of 550,000 tons, which amounted, to 335 percent of the level achieved by the same soda plants on the eve of the World War I in 1913, and to 240 percent of the 1929 level.

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During World War II, the construction of a large new soda plant was begun in the Bashkir ASSR. Several of the sections of this new construction have already been put into use. Construction of the new plant resulted in a significant change in the geographical distribution of the USSR soda industry, shifting it to the East.

The Five-Year Plan for the establishment and development of the national economy of the USSR for 1946-1950 called for the restoration of soda plants and the completion of the construction of the soda plant begun in the Bashkir ASSR during the war, and the construction of still another soda plant. In 1950, the production of calcined soda was to amount to 800,000 tons and of caustic soda, 390,000 tons.

The large increase in the soda production capacity of the USSR (during the postwar Five-Year Plan a capacity of 813,000 tons of calcined soda and 278,000 tons of caustic soda was to be installed) was only the beginning of the construction of the soda industry, which has already reached the limits of the postwar Five-Year Plan. (69)

Mikhaylovskiy Soda Combine

As a result of inadequate direction from its main administration, this combine failed to fulfill the plan for 1953.(1)

Stalinogorsk Chemical Combine imeni Stalin

In 1953, the production of caustic soda at this combine was increased by 76.8 percent in comparison with 1950.(9)

Sterlitamak Soda Plant

This plant failed to fulfill its 1953 plan because of the failure of its main administration to give it adequate support.(1)

Yerevan Carbide Plant

In connection with the consumer goods program, it would be possible to organize the production of up to 100,000 tons of soda per year from the waste products and subsidiary materials of the Yerevan Plant.(40)

MEDICAL INDUSTRY

General

Soil bacteria, saccharomycetes, and other so-called "useful microbes" are all widely used in the USSR economy for increased productivity of crops and for producing alcohol, albumen (kormovyy belok), antibiotics, vitamins, etc.

On 28 November 1953, a conference of microbiologists was summoned in Moscow by the Department of Biological Sciences and the Institute of Microbiology of the Academy of Sciences USSR. It was devoted to a discussion of the application of marked atoms to microbiology. This method, based on the use of radioactive agents, makes it possible quickly and accurately to trace the action of various agents entering from outside the animal, plant, and microbe organism.(70)

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Pharmaceuticals

According to the directives of the 19th Party Congress, at the end of the Fifth Five-Year Plan the production of drugs will be no less than 2.5 times the production in 1950.(4)

The requirements of the USSR for medicinal camphor were originally satisfied exclusively by the import from Japan of natural camphor which was obtained from the camphor laurel.

Repeated efforts to supply the USSR with native natural camphor have not met with great success. These efforts included the culture of camphor laurel on the Black Sea Coast, experiments in the use of wild-growing wormwood, and the culture of camphor basil and the organization of the production of camphor from its base.

In 1930, at the Okhtenskiy Chemical Combine in Leningrad under the direction of Professor S. N. Ushakov, the first production of synthetic camphor in the USSR was organized, the raw material for which consisted of the pine oil from the needles of Siberian firs. But the camphor obtained in this manner was unsuitable for medicinal purposes.

In 1933, work was renewed at the Novosibirsk Experimental Camphor Plant and in the following year the production of camphor was begun (using pine oil and turpentine as raw materials) with a method of dehydrogenation. In the experimental work of the plant an active part was taken by the man occupying the chair of pharmacology at the Tomsk Medical Institute, Professor N. V. Vershinin. The camphor obtained by the dehydrogenation method has met all the demands of industry and medicine.

The camphor manufactured by the Novosibirsk Plant, surpassing in its medicinal properties all other similar types of camphor, has been widely introduced into the medical practice of the USSR and has replaced the imported Japanese camphor.(71)

Frunze Pharmaceutical Plant

The Plant completed the 1953 10-month plan for gross production 108.1 percent.(72)

Moscow Pharmaceutical Plant imeni 8 Marta

The plant completed the 1953 plan ahead of schedule.(73)

Riga Pharmaceutical Plant

The Riga Plant fulfilled the January 1954 plan by 188 percent.(74)

The plant has mastered the production of a new synthetic preparation, piperazine. This drug, which is difficult to prepare, is used in the treatment of rheumatism, gout, and kidney ailments. The plant has been converted to mass production of the product.(75)

An original machine for the electric cutting of ampoules has been demonstrated at the Riga plant. The machine has taken the place of the hand labor of many workers and has increased productivity by 28 times.(76)

Great significance is attached to achievements concerning furfural, the product of the utilization of waste products of the hydrolysis industry. In the field of furfural, a series of new medicinal preparations has been

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obtained, the production of which has been set up at the Riga Pharmaceutical Plant. The medicinal preparation "furatsilin," which was obtained earlier and which is used in surgery in the treatment of wounds and for angina and other sicknesses, acquired a wide reputation in the USSR in 1953.(77)

Tbilisi Pharmaceutical Plant

The plant considerably exceeded the 1952 plan. In 1953, its capacity was to be increased 40-50 percent over 1952. The reconstruction of the tablet-packing plant will make it possible to increase considerably the output of tablets. Improvement of the main building and the tannic acid shop is being completed. The number of workers in the glass-blowing section is being increased.(78)

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21. Moscow, Pravda, 21 Feb 54
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23. Moscow, Trud, 2 Oct 53
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