KRASIL'NIKOV, N.A.

KRASIL'NIKOV, N.A.; SKRYABIN, G.K.

Development of studies on antibiotics through research performed by Soviet microbiologists. Antibiotiki 2 no.5:3-7 S-O '57. (MIRA 10:12)

1. Institut mikrobiologii AN SSSR.
(ANTIBIOTICS,
research in Russia (Rus))

KRASIL'NIKOV, N.A.; KORENYAKO, A.I.; MEKSINA, M.M.; VALEDINSKAYA, L.K. [deceased]; VESELOV, N.M.

Culture of Actinomyces No.111, Actinomyces luridus nov.sp., producer of the antiviral antibiotic luridin [with summary in English]. Mikrobiologiia 26 no.5:558-564 S-O '57. (MIRA 10:12)

1. Institut mikrobiologii AN SSSR i Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Moskva.

(ANTIBIOTICS,
luridin, prod. by Actinomyces luridus & antiviral properties (Rus))
(ACTINOMYCES,
luridus, prod. of antibiotic luridin (Rus))

KRASIL'NIKOV, N.A.

Role of soil micro-organisms in plant nutrition; from material of Soviet microbiologists during the past 40 years. Mikrobiologiia 26 no.6:659-672 N-D '57. (MIRA 11:3)
(SOIL MICRO-ORGANISMS) (PLANTS--NUTRITION)

KRASILNIKOV, N.A.

10. KRASSILNIKOFF N. A. Inst. de Microbiol., Moscou. La classification des actinomycètes producteurs d'antibiotiques *Classification of actinomycetes producers of antibiotics* Ann. Inst. Pasteur 1957, 92/5 (597–604) Tables 3

The classification of actinomycetes producers of antibiotics is difficult, in the first place because of our insufficient knowledge of their morphology, secondly because of the great variability and polymorphism of the species they belong to. The author suggests a new classification method, based on the antibiotics produced by these microorganisms. The antibiotics may in fact be considered as absolutely necessary to the struggle for life between rivals; they manifest their activity towards competing bacterial species only; they never show any activity against cultures of the same species. Generally all the strains of one species produce an antibiotic inhibiting the growth of all the strains of the rival species. The author gives several examples of this phenomenon. The antagonism between species may be uni- or bilateral. The narrow specifity of antibiotics produced by various species can be used in taxonomy for the differentiation of these species. By means of crossed antagonism experiments, the author has succeeded in demonstrating the heterogeneity of many species considered till now as homogeneous.

20-117-5-47/54

AUTHORS: Krasil'nikov, N. A. , Corresponding Member AS USSR, and Kotelev, V. V.

TITLE: Qualitative Determination of Phosphatase Activity in Certain Groups of Soil Microorganisms (Kachestvennoye opredeleniye fosfataznoy aktivnosti nekotorykh grupp pochvennykh mikroorganizmov)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 117, Nr 5, pp. 894 - 895 (USSR)

ABSTRACT: The opinions concerning the problem of the exploitation of phosphorus compounds by plants are divergent: according to some authors organic phosphorus compounds can be directly absorbed, according to others, however, they have to be disintegrated up to inorganic phosphorus (reference 2). The microorganisms as well as the fermentative systems of the plants are actively taking part in this latter process (reference 3). The microorganisms washed out from the root-near soil have an only weak amylolytic (starch splitting) activity. On the other hand, invertase as well as amylase exist in the roots of sterilely grown plants (reference 4). The enzyme group of the phosphatase has a fundamental importance in the decomposition of organophosphatases and takes part in the biodynamics of the soil phosphatase. This can also be effected by biocatalysts and enzymes of bacterial origin, even in the case that the soil

Card 1/3

Qualitative Determination of Phosphatase Activity in Certain Groups of Soil Microorganisms

does not contain any increasing microorganisms (reference 5). According to the kind of the soil and the phosphorus compound this process takes place more or less quickly and the decomposition has various degrees. In contrast to other researchers (reference 10-12) and former works of their own the authors used phenol-phtalein--phosphate (reference 13 - 14) for the solution of the problem in question. There is a colored reaction in presence of phosphatase if it is splitted into free phenol-phtalein and phosphorus by these latter. Phenol-phtalein molts red in a buffer solution. From the intensity of this color and from the width of the colored zone of the culture medium around the microbe colony it can be concluded to the quantity of phosphatase separated by the different microorganisms. The preparation of the culture medium is described. Several species of bacteria, fungi, actinomycetes, Acotobacter, and cellulose disintegrating bacteria served as experimental material. The width of the red colored zone around the colony, expressed in millimeters, speaks of the fact that most soil microorganisms have the capacity of producing phosphatase. Besides ammonificators Pseudomonas species, and various soil fungi which have a considerable phosphatase activity also the cellulose decomposing bacterium sorangium has this capactiy. The qualitative reaction suggested

Qualitative Determination of Phosphatase Activity in Certain Groups of Soil Microorganisms

here can be used for the detection of the most active soil microbes with regard to the phosphatase production in order to be able to use them as bacterial manure the effect of which is based on the mineralization of organophosphatase in the soil. There are 1 table, and 14 references, 6 of which are Slavic.

ASSOCIATION: Institut mikrobiologii Akademii nauk SSSR (Institute of Microbiology of the AS USSR) Moldavskiy filial Akademii nauk SSSR(Moldavian Branch of the AS USSR)

SUBMITTED: September 21, 1957

Card 3/3

KRASILNIKOV, Nikolay A.
Institute of Microbiology, Acad. Sci. USSR.

" Biosynthesis of Antiviral Substances of the Actinomyces Origin."

paper presented at Seventh International Congress of Microbiology, Stockholm, Sweden, 4-9 Aug '58.

KRASIL'NIKOV, Nikolay Aleksandrovich; KATSNEL'SON, S.M., red.; SAVCHENKO, Ye.V., tekhn.red.

[Microbe activators and plant life] Mikroby-aktivatory i zhizn' rastenii. Moskva, Izd-vo "Znanie," 1958. 39 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser. 8, vyp. 1, no.23) (MIRA 12:2)
(Rhizosphere microbiology)

KRASIL'NIKOV, Nikolay Aleksandrovich, prof.; SEVERTSEVA, M.G., red.; PARSADANOVA, K.T., red.izd-va; GRIGORCHUK, L.A., tekhn.red.

[Antagonism of microbes and antibiotics] Antagonizm mikrobov i antibioticheskie veshchestva. Moskva, Gos.izd-vo "Sovetskaia nauka," 1958. 337 p. (MIRA 12:5)

1. Institut mikrobiologii AN SSSR (for Krasil'nikov).
(ANTIBIOTICS) (BACTERIAL ANTAGONISM)

KRASIL'NIKOV, Nikolay Aleksandrovich; POTEKHINA, N.A., red.izd-va; RYLINA, Yu.V., tekhn.red.

[Micro-organisms in soils and higher plants] Mikroorganizmy pochvy i vysshie rasteniia. Moskva, Izd-vo Akad.nauk SSSR, 1958. 462 p. (MIRA 11:7)
(Micro-organisms)

KRASIL'NIKOV, N.A., SKYABIN, G.K., ARTAMONOVA, O.I.,

A new antiviral antibiotic violarin, produced by Actinomyces violaceus [with summary in English]. Antibiotiki, 3 no.3:18-22 My-Je '58 (MIRA 11:7)

1. Institut mikrobiologii AN SSSR.
(ACTINOMYCES,
violaceus, prod. of antiviral antibiotic violarin (Rus))
(VIRUSES, effect of drugs on,
violarin, antibiotic prod. by Actinomyces violaceus (Rus))
(ANTIBIOTICS,
violarin, antiviral properties & prod. by Actinomyces violaceus (Rus))

KRASIL'NIKOV, N.A.

Soil and climatic factors influencing the variability of microorganisms. Trudy Inst. mikrobiol. no.5:107-115 '58 (MIRA 11:6)

1. Institut mikrobiologii AN SSSR.
(BACTERIA,
variability, eff. of soil & climate, review (Rus))
(SOIL, microbiology
bact. variability, review (Rus))

AUTHOR: Krasil'nikov, N. A., Corresponding Member AS USSR 30V/30-58-6-10/45

TITLE: Soviet "Gibberellin" (Sovetskiy "gibberellin")

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 6, pp. 70 - 73 (USSR)

ABSTRACT: During recent years, attention was diverted towards the most active microbes which stimulate growth. Amongst others, a preparation was obtained from fungi of the fusarium-group, which according to its properties, is closely related to the gibberellin acid described in publications and which was designated as "G"-preparation, or respectively as Soviet Gibberellin. Up till now, the socalled fungus Gibberella fujikuroi has been known as producer of these preparations. This fungus has been separated from the tissues of a sick rice-plant by the Japanese scientist Kurozava for the first time in 1926. In 1939, another Japanese scientist Yabuta, obtained an active substance in chemically pure form, which he called Gibberellin. At present, this preparation is produced by many foreign firms. The effect of Gibberellin acid on the growth of plants was thoroughly investi-

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gated in the Soviet Union by Professor M.Kh.Chaylakhyan who used an American preparation. The Soviet preparation "G" was obtained from the fungus Fusarium sp., which is further described. The preparation "Stadol" which was sent by Professor P.V.Brian from England (Ref 1) was also investigated for the purpose of comparison. The separation and chemical purification of the substance was carried out according to the Stadol-method by the collaborator of the Institute for Microbiology, AS USSR, Yu.M. Khokhlova (Ref 2). It is still unknown whether the Soviet preparation represents Gibberellin acid, since special chemical investigations are still required for this purpose. Like the Stadol preparation, it acts already in quantities of 1 to 2 µg on the growth of plants. The optimum concentration is 50 to 100 µg per 1 liter of water. Great successes were achieved by wetting the young plants (peas, cucumbers, mais) which is also the case by submitting the seed to a treatment with the "G"-preparation. This preparation ought to be tested by various provincial authorities by experimental stations, as well as on kolkhoz fields in order to clarify the possibilities of its use in the fields and gardens. Above all, it is necessary to produce an adequate quantity of this preparation in the plants of the antibiotics industry

Soviet "Gibberellin"

SOV/30-58-6-10/45

according to the proposed method and to guarantee it also in the future.

1. Plants--Growth 2. Growth substances--Effectiveness

Card 3/3

26-58-7-16/48

AUTHOR: Krasil'nikov, N.A., **Corresponding Member** of the AS USSR

TITLE: Soviet Gibberellin (Sovetskiy gibberellin)

PERIODICAL: Priroda, 1958, Nr 7, pp 81-84 (USSR)

ABSTRACT: The author deals with gibberellin preparations developed by the Laboratory of the Chair of Soil Biology of the Moscow State University and compares them with foreign preparations of the same type. Professor M.Kh. Chaylakhyan has made thorough studies in the field. Preparation G ("preparat G") is based on Fusarium sp. fungus and has great influence on the growth of plants (Figure 1). "Preparat G" is still being kept in quotation marks, since it has not yet become evident whether the preparation belongs to the true gibberellins. Preparation D (preparat D) is based on soil yeasts, is water soluble and looks like a brownish powder. It also has great stimulating properties (Figure 2). Preparations A_1 and A_2 (preparat A_1, preparat A_2) have been obtained from actinomycete cultures. They stimulate the growth of peas, clover, sweet peas, cucumbers and grasses (Figure 3).

Card 1/2 There are 3 photos and 6 Soviet references.

Soviet Gibberellin 26-58-7-16/48

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova (The Moscow State University imeni M.V. Lomonosov)

1. Biology--USSR 2. Gibberellin--Preparation

Card 2/2

SOV-26-58-9-19/42

AUTHOR: Krasil'nikov, N.A., Member Correspondent AS USSR

TITLE: The Absorption of Naturally Radioactive Elements by Soil Microorganisms (Pogloshcheniye yestyestvenno-radioaktivnykh elementov pochvennymi mikroorganizmami)

PERIODICAL: Priroda, 1958, Nr 9, pp 97-99 (USSR)

ABSTRACT: Naturally radioactive elements, such as radium, uranium, thorium, etc., are distributed widely but thinly in nature. According to data by Baranov and Tseytlin (1941) radium amounts in soils range from $2.96 \cdot 10^{-11}$ to $1.94 \cdot 40^{-10}$, uranium from $8.8 \cdot 10^{-5}$ to $58.8 \cdot 10^{-5}$, and thorium from $2.6 \cdot 10^{-4}$ to $9.5 \cdot 10^{-4}$ (Uranium and thorium in percentage expressions of radium). Experiments have shown that small concentrations of natural radioactive substances are necessary for the increase and stimulation of the life processes in the plant cells, plant growth and harvest yields. There is also evidence that the microorganisms of the soil utilize the radioactive substances as energy sources for certain biochemical processes. Azotobacter (chroococcum and vinelandii) absorb the highest amounts within the briefest period of time, the root bacteria of lucerne, pea and clover take up considerably

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The Absorption of Naturally Radioactive Elements by Soil Microorganisms

less, the least amount is taken up by spore-bearing bacteria, micrococci or staphylococci. Among the actinomycetes, there are strains which absorb high amounts of radioactive substances, about as much as azotobacteria, while other strains only take up little. Thus soil bacteria, in their natural sites, absorb and concentrate radioactive substances occurring in nature, pass them on to the plants, affecting them greatly. the bacteria themselves also utilize these substances for their own life processes. The experimental method of recording the absorption of radioactive substances by soil microorganisms is described in detail. There are 4 photos.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova (The Moscow State University imeni M.V. Lomonosov).

1. Radioactive substances--Absorption 2. Radioactive substances --Abundance 3. Radioactive substances--Physiological effects

SOV/25-58-11-7/44

AUTHOR: Krasil'nikov, N.A., Corresponding Member of the USSR Academy of Sciences

TITLE: Living Treasures (Zhivyye klady)

PERIODICAL: Nauka i zhizn', 1958, Nr 11, pp 14-16 (USSR)

ABSTRACT: The author reviews the stimulating properties of soil microorganisms upon the growth of various agricultural plants. He deals in detail on the stimulating effect of gibbereline, first disdovered in 1926 by the Japanese scientist Kurozava. It was found that of the 3 forms of gibbereline (A_1, A_2 and A_3), A_3 gave the strongest stimulating effect. However, as promising as the prospects for increasing the yields of agricultural crops may appear by using these artificial stimulants, much research work remains to be done for their practical realization. There are 7 photos.

Card 1/1

KRASIL'NIKOV, N.A.

Antagonistic microbes and antibiotic substances as factors increasing the resistance of plants to infections [with summary in English]. Izv.AN SSSR Ser.biol. 23 no.2:170-182 Mr-Ap '58. (MIRA 11:4)

1. Institut mikrobiologii AN SSSR.
(PLANTS--DISEASE AND PEST RESISTANCE) (ANTIBIOTICS)
(SOILS--BACTERIOLOGY)

Krasil'nikov N. A.

IYERUSALIMSKIY, N.D., IMSHENETSKIY, A.A., KOSIKOV, K.V., KRASIL'NIKOV, N.A. RAUTENSHTEYN, Ya.I.

Matus Osharovich Streshinskii; an obituary. Mikrobiologiia 27 no.2:271 Mr-Ap '58 (MIRA 11:5)
(STRESHINSKII, MATUS OSHAROVICH, 1912-1957)

KRASIL'NIKOV, N. A.

"Antibiotic substances and their use in the breeding of plants".

report presented at a Joint Session of the Biological Dept. of AN USSR and Biological and Medical Depts. AN Gruziya SSR, Tbilisi, 28 Sept - 3 Oct 1957. Vestnik Akad. Nauk SSSR, 1958, Vol. 28, No. 1, pp. 121-125. (author Dzidzishvili, N. N.)

KRASIL'NIKOV, N. A.

"On the Part Played by Microorganisms in Plant Nutrition.

report presented at the Congress of Biological Research in the Moldavian SSR 16-21 Sept 1957, Moldavian Branch AS USSR organized together with VASKhNIL. Vestnik AN SSSR, 1958, V. 28, No. 1, p. 124-126 (author Kosenko, I. Ye.)

AUTHORS: Krasil'nikov, N. A., Corresponding Member, [illegible] Academy of Sciences, USSR, Korenyako, A. I., Artamonova, O. I. SOV/20-120-4-59/67

TITLE: On Self-Suppression in Actinomycetes (O samougnetenii u aktinomitsetov)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 4, pp. 900-903 (USSR)

ABSTRACT: In the study of the antagonism of Actinomycetes the authors found a certain regularity in the particular nature of the interspecific interaction. As a rule the cultures of the same species do not suppress each other. Antibiotics do not suppress their own producer (Ref 5). This specific nature of antagonism served as a basis for the method of grouping and for the determination of the species of Actinomycetes and for the differentiation of the antibiotics produced by them. These methods permitted a comparatively accurate separation without a failure for a number of years. There are cases, however, where such a culture of Actinomycetes, when applied to the nutrient medium suppresses the growth of its own cells and of the cells of races belonging to its own species. No differences as compared to the inter-

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specific antagonism can be perceived. Zones of self-suppression are formed (Fig 1), this phenomenon, however, being rare. It is observed with the greatest frequency in pigmented species as Act.violaceus, Act.coelicolor, Act. roseus, Act. viridichromogenes, but also in not pigmented species, as Act. diastaticus, Act.griseus. This phenomenon was studied. The investigations showed, that this effect is caused by two factors: a) by phages, which sometimes are the cause of self-suppression of growth, or b) in other cases a particular substance causing the death and the dissolution of cells. Pending final decisions, it was called "necrohormone". Long-term research furnished the result that many Actinomycetes contain phages in a hidden state. These are so-called lysogenic cultures. They are not dissolved under normal conditions of growth. The phage appears only in a particular stage of the Actinomycetes (Ref 9). Such lysogenic Actinomycetes are sometimes uncovered by the application of pellets of old culture on the recently sown patches of cells. The zone free of growth forming around these pellets is caused by phages, which become active by an unknown manner (Fig 1b). According to the experiments the authors drew the conclusion, that other factors than antibiotics are to be made responsible

SOV/20-120-4-59/67

On Self-Suppression in Actinomycetes

here, that is to say a) actinophages, b) necrohormones. The action of the latter was proved for several Actinomycetes, as Act.diastaticus, in some gray species, and in isolated races of blue Actinomycetes and in other. Necrohormone substances were found in races of Act.violaceus. They were isolated by physico-chemical methods and were obtained as a red solution. They are apparently a mixture of different chemical compounds. Necrohormones could not be obtained as yet in a pure state. There are 3 figures and 9 references, 9 of which are Soviet.

ASSOCIATION: Institut mikrobiologii Akademii nauk SSSR (Institute of Microbiology AS USSR)

SUBMITTED: March 6, 1957

1. Actinomycetales--Growth 2. Actinomycetales--Chemical analysis
3. Actinomycetales--Physiology 4. Bacteriophages

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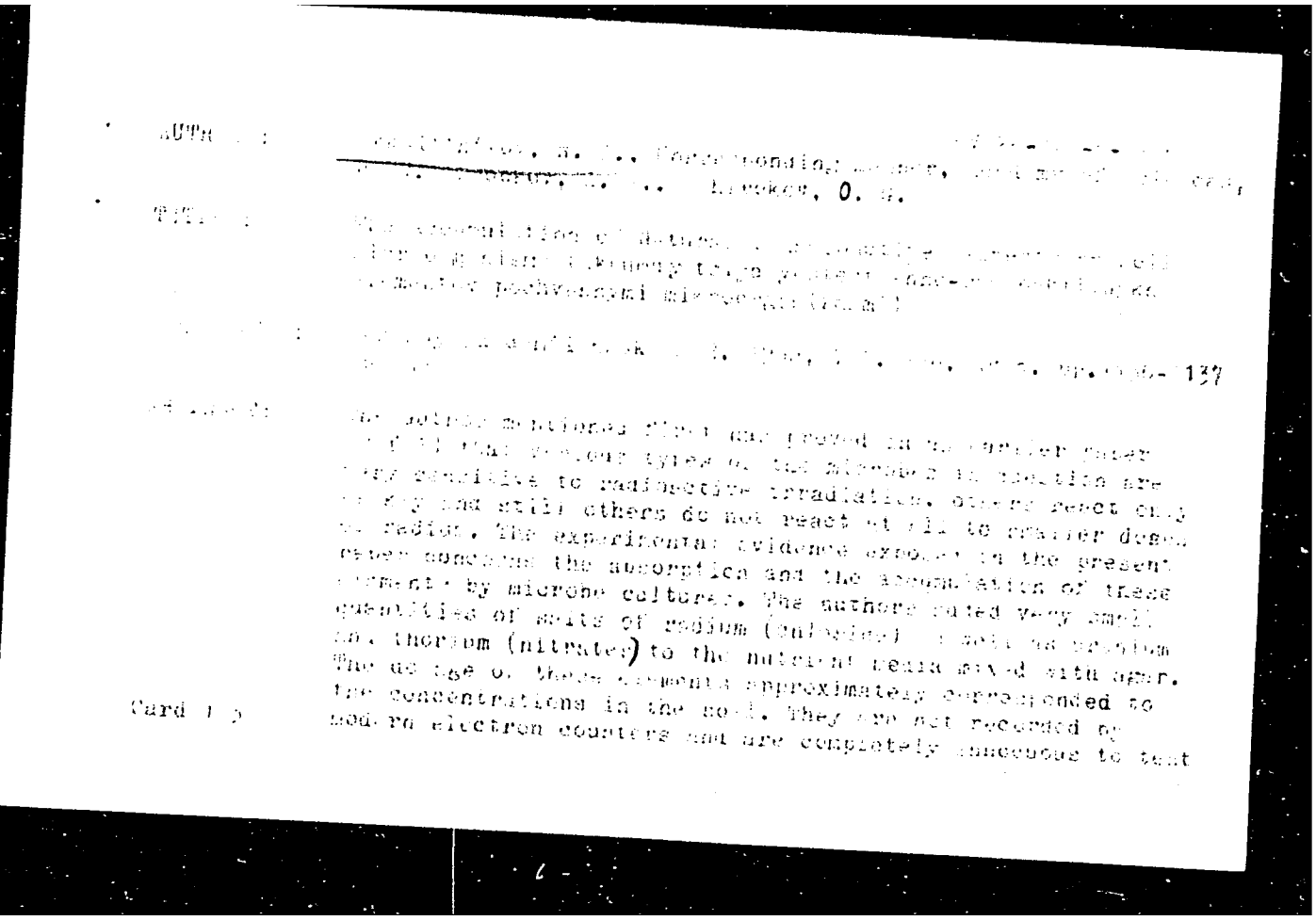

AUTH :

TITLE :

SOURCE :

ABSTRACT :

Card 1 /

The accumulation of naturally radioactive [illegible] by [illegible] microorganisms

microbes. Dried cellophane disks with the microbe colonies growing on them were placed into boxes with a sensitive film (X and AA). After 1 - 6 months a radio autogram could be observed on it (Fig 1). It was found that the microbes are able to accumulate radioactive materials from substrates which they contain in infinitesimal concentrations. Azotobacter, some types of tubercle bacteria as well as Pseudomonas proved to be the most active accumulators. They may be used as indicators of the present content and the concentration level of the radioactive materials in substrates and media. For this purpose, however, special methods should be developed. There are 1 figure and 1 reference, 1 of which is Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: March 15, 1958

Card 2/2

SOV/20-120-5-57/67

The Accumulation of Naturally Radioactive Elements by Soil Microorganisms

1. Bacteria--Effects of radiation 2. Radioactive substances--Dosage determination
3. Radioactive substances--Absorption 4. Microbes--Autoradiography

Card 3/3

KRASIL'NIKOV, N.A.; CHAYLAKHYAN, M.Kh.; SKRYABIN, G.K.; KHOKHLOVA, Yu.M.; ULEZLO, I.V.; KONSTANTINOVA, T.N.

Stimulating effect of gibberellins of different origin. Dokl. AN SSSR 121 no.4:755-758 Ag '58. (MIRA 11:9)

1.Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova Institut fiziologii rasteniy im. K.A. Timiryazeva AN SSSR i Institut mikrobiologii AN SSSR. 2.Chlen-korrespondent AN SSSR (for Krasil'nikov).
(Gibberellins)

17(2) SOV/20-123-2-44/50

AUTHORS: Krasil'nikov, N. A., Corresponding Member, Academy of Sciences, USSR, Zvyagintsev, D. G.

TITLE: The Application of Fluorescent Microscopy in Incident Light to Soil Microflora Investigations (Primeneniye fluorestsentnoy mikroskopii v otrazhennom svete dlya izucheniya pochvennoy mikroflory)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 2, pp 366-367 (USSR)

ABSTRACT: The authors suggest a modification of the method of direct microscopic investigation of the soil microflora: instead of observing a soil-suspension in permeating blue light an undestroyed section of fresh soil is lighted by the mercury-quartz lamps SVDSh 250-2 and -3, and studied in the incident light. Thus, it was possible to see the natural normal distribution of microbes in the soil as well as their colonies on soil particles of any size. The staining method remained unchanged (Refs 1,2): fluoro chrome acridine orange. The color microphotographs (Figs 1-3) give an idea of the location of the microbe in the soil and of its main forms. It was possible to

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The Application of Fluorescent Microscopy in Incident Light to Soil Microflora Investigations

find out that the soil microorganisms are placed in their natural state on the surface of soil particles. Only a few of them are floating freely in between. Some particles are densely (Fig 1 a), others, however, only weakly populated (Fig 1 b). They form colonies different in size (4-20 up to 100 and more individual microbes). Single cells, and chains occur relatively often. The bulk of the bacterial cells in the soil is in a state of ball- or coccus-like forms; smaller or bigger rods are rare. Mycelial hyphae of actinomycetes and fungi occur. Organic materials, such as peptone, saccharose, starch, and mannitol caused an impetuous development of microorganisms in humus. A lot of freely floating cells occurred. The authors successfully applied the method suggested for investigating the adsorption by the soil of individual species of bacteria (Fig 3). Some species (Pseudomona pyocyanea) are adsorbed in great quantities, some others in a smaller degree (Bacterium coli, B. mycoides), and a third group not at all. As fluorescence device OI-17 was used. There are 3 figures and 2 references, 1 of which is Soviet.

SOV/20-123-2-44/50

The Application of Fluorescent Microscopy in Incident Light to Soil Microflora Investigations

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: June 27, 1958

Card 3/3

17(1), 17(4)

AUTHORS: Krasil'nikov, N. A., Corresponding Member, SOV/2o-123-6-45/5o
Academy of Sciences, USSR, Chaylakhyan, M. Kh.,Aseyeva, I. V.,
Khlopenkova, L. P.

TITLE: On a Gibberella-Like Substance Formed by Soil Yeasts (O gibberellinopodobnom veshchestve, obrazuyemom pochvennymi drozhzhami)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 6, pp 1124 - 1127 (USSR)

ABSTRACT: The authors point out the stimulating effect exerted by the gibberella preparation Nr 1 which had been isolated by them, and by the pure gibberella A_3 on the growth of Rudbeckia bicolor (Ref 2). Physical-chemical properties and chromatograms characterized the mentioned preparation Nr 1 as gibberella A_3 or some compound related to it. The preparation investigated in the present paper comes from Torula pulcherrima, a yeast fungus that is especially prevalent in turf-bleaching earths. It grows well in media without nitrogen with and without addition of agar. On agar this yeast fungus forms

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mucous, vaulted, semitransparent or transparent colonies deliquescing on the surface of the culture medium. Externally, they are very much like the colonies of Azotobacter chroococcum. Torula has very large (10—15μ and even more) regularly globular cells (Fig 1). They propagate by gemmation, without spores. For their multiplication the liquid synthetic medium of Chapek was used. There, they grow best. After the medium has become turbid (15 - 20 days), the active substance is obtained as a powdery raw product by adsorption on charcoal and elution with organic solvents. The preparation obtained proved to be highly active and was tested in comparison with gibberella preparation Nr 1 as well as with chemically pure gibberella A_3 on rosette-like plants of Rudbeckia bicolor.

The preparation in the form of a 0.02% aqueous solution (content of active substance in one drop about 10μ) was introduced dropwise into the center of the rosette or into the axil of an upper leaf of the plants. The controls developed water drops. Figures 2 and 3 as well as table 1 show that the physiological activity of gibberella A_3 (Fig 2:1) is

 equal to that of the preparation Nr 1 (Fig 2:2). The sample

from Torula is but little inferior as to the growing of the stems by 5-6 days, as to the formation of flower buds and the bursting by 9-10 days. The plants on the Torula preparation (Fig 2:3, 3:1) are of more compact structure, since the stem is abundantly foliaged, the leaves are of a deeper green, the internodes are shorter whereas the lateral shoots grow more regularly and are not so elongated. The controls remained always in the rosette stage (Fig 2:4, 3:2). This proves that gibberellas and their related substances are metabolites which are not specific for the Fusarium fungi alone, but are characteristic also of other microorganisms, in particular of soil-yeasts. There are 3 figures, 1 table and 3 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov) Institut fiziologii rasteniy im. K. A. Timiryazeva i Institut mikrobiologii Akademii nauk SSSR (Institute of Plant Physiology imeni K. A. Timiryazev and Institute of Microbiology of the Academy of Sciences, USSR)

PETROSYAN, Azniv Petrosovna; KRASIL'NIKOV, N.A., prof., red.;
MUSHEGYAN, E., tekhn.red.

[Ecological characteristics of the nodule bacteria in the Armenian S.S.R.] Ekologicheskie osobennosti kluben'kovykh bakterii Armianskoi SSR. Pod red. N.A.Krasil'nikova. Erevan, Izd-vo M-va sel'.khoz.Armianskoi SSR, 1959. 280 p.
(MIRA 13:11)

1. Chlen-korrespondent AN SSSR (for Krasil'nikov).
(Armenia--Micro-organisms, Nitrogen-fixing)

KRASIL'NIKOV, N.A.

Factors transforming the properties of micro-organisms. Izv. AN SSSR, Ser.biol. 24 no.6:814-831 N-D '59. (MIRA 13:4)

1. Institute of Microbiology, Academy of Sciences of the U.S.S.R., Moscow.
(MICRO-ORGANISMS) (VARIATION (BIOLOGY))

KRASIL'NIKOV, N.A.; KOTELEV, V.V.

Adsorption of phosphatases of soil micro-organisms by conr roots.
Mikrobiologiia 28 no.4:548-550 Jl-Ag '59. (MIRA 12:12)

1. Pochvennyy institut Moldavskogo filiala AN SSSR.
(PHOSPHATASE) (CORN (MAIZE)) ROOTS (BOTNAY))

KRASIL'NIKOV, N.A.

"Marine (deep-sea) microbiology- by A.E. Kriss. Reviewed by N.A. Krasil'nikov. Mikrobiologiia 28 no.6:944-948 N-D '59. (MIRA 13:4)

(SEA WATER--BACTERIOLOGY)

SOV/20-128-4-56/65

17(2)
AUTHORS: Krasil'nikov, N. A., Corresponding Member, AS USSR, Skryabin, G. K., Aseyeva, I. V., Korsunskaya, L. O.

TITLE: Dehydrogenation in the 1,2 Position of Hydrocortisone by Means of Mycobacterium sp. Nr 193

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 4, pp 836-839 (USSR)

ABSTRACT: During the last years it has become possible to make use of microbiological processes for the production of hormones occurring in organisms: suprarenal gland, reproductive hormones, and their derivatives. New microbiological processes were developed for the production of cortisone (substance E), hydrocortisone (substance F) and their derivatives, on the basis of hydroxylation of progresterone into II α-oxy-progresterone by microorganisms (Ref 2). Highly effective hormones, namely prednisone (Δ E) and prednisolone (Δ F) were industrially obtained in good yields by means of Corynebacterium simplex. They are used for inflammations (Schering, USA, Ref 3). This method proved to be more simple and less expensive than chemical processes. Actinomyces lavendulae, bacterium cyclooxydans et al, during fermentation develop a mixture of dif-

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ferent steroids. An industrial production of ΔE and ΔF is difficult, due to the necessary separation of this mixture. The authors made investigations in order to find highly active microorganisms which are able to transform biologically hydrocortisone (I) and prednisolone (II). The most productive cultures were looked for in vegetable materials, decomposition products of the soil, in the oral cavity of man and animals, and in other natural, nutrient media, and numerous strains of Actinomycetes, fungi and bacteria were isolated. 10-15 mg of the initial steroid chemically produced, were added to 2 ml of 80% ethanol. The transformation of steroids was controlled by decreasing distribution chromatography (Ref 6). By means of this method cultures were obtained which are able to transform the initial substances into cortisone, hydrocortisone et al. The culture mentioned in the title actively caused the mentioned process and produced prednisolone and prednisone. "B" with 1% of yeast autolysate, 1% of glucose in distilled water proved to be the optimum medium for highest prednisolone yields (79%). After 5 hours the process is finished. If fermentation is continued, prednisolone decomposes. Figure 1 shows chromatograms of the transformation

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process. The quantitative yield was spectrophotometrically determined besides the identification of the final products. They were chemically isolated. Yu. N. Chirgadze (Institut biofiziki AN SSSR - Institute of Biophysics of the AS USSR) conducted the identification by means of infrared spectra (Fig 2). There are 2 figures and 6 references.

ASSOCIATION: Institut mikrobiologii Akademii nauk SSSR (Institute of Microbiology of the Academy of Sciences, USSR). Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: July 10, 1959

KOMARNITSKIY, N.A., prof.; TOMIN, M.P., akademik; KRASIL'NIKOV, N.A., prof.; KURSANOV, L.I., prof., red.; TSESHINSKAYA, N.I., red.; PARSADANOVA, K.G., red. izd-va; PAVLOVA, V.A., tekhn. red.

[Classification key of lower plants in five volumes] Opredelitel' nizshikh rastenii v piati tomakh. Moskva, Gos. izd-vo "Vysshaia shkola." Vol.5. [Lichens, bacteria, and actinomycetes] Lishainiki, bakterii i aktinomitsety. Pod obshchei red. L.I.Kursanova. 1960. (MIRA 14:9)
290 p.
(Lichens) (Bacteria) (Actinomyces)

KRASILNIKOV, N. A.

"On The Significance Of Microorganisms In Soil Toxicosis".

report submitted for the 7th Congress of International Society of Soil Science Madison, Wisconsin, 15-23 Aug 60.

(not in attendance)

KRASILNIKOV, N. A. and GUKASYAN, G. B.

"The Microflora of the Siberian Silkworm Dendrolimus Sibiricus."

report presented at the Intl. Congress of Entomology,
Vienna, Austria, 17-25 Aug 1960.

KRASIL'NIKOV, N.A.

Tireless explorer of the sea depths. Priroda no.6:5-6 Je '60. (MIRA 13:6)

1. Chlen-korrespondent Akademii nauk SSSR.
(Kriss, Anatolii Evseevich)

KRASIL'NIKOV, N.A.

Principles underlying the classification of actinomycetes. (MIRA 14:1)
Trudy Inst. microbiol. no.8:7-20 '60.
(ACTINOMYCETALES)

KRASIL'NIKOV, N.A.

Rules for the classification of actinomycetes producing antibiotic substances. Trudy Inst. microbiol. no.8:21-28 '60. (MIRA 14:1)
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Formation of sclerotia by actinomycetes and systemic position of the genus Chainia. Trudy Inst. microbiol. no.8:45-55 '60. (MIRA 14:1)

(ACTINOMYCETALES)

KRASIL'NIKOV, N.A.; KORENYAKO, A.I.; NIKITINA, N.I.

Actinomyces globisporus, a subgroup of actinomycetes of the globisporus group. Trudy Inst. microbiol. no.8:56-85 '60. (MIRA 14:1)

1. Institut mikrobiologii AN SSSR.
(ACTINOMYCETALES)

NIKITINA, N.I.; KORENYAKO, A.I.; KRASIL'NIKOV, N.A.

Cultures of the species Actinomyces streptomicini Krass. Trudy Inst. microbiol. no.8:85-103 '60. (MIRA 14:1)

1. Institut mikrobiologii AN SSSR.
(ACTINOMYCETALES)

NIKITINA, N.I.; KORENYAKO, A.I.; KRASIL'NIKOV, N.A.

Actinomyces vulgaris. Trudy Inst. microbiol. no.8:104-115 '60.
(MIRA 14:1)

1. Institut mikrobiologii AN SSSR.
(ACTINOMYCETALES)

KORENYAKO, A.I.; KRASIL'NIKOV, N.A.; NIKITINA, N.I.

Actinomyces levoris. Trudy Inst. microbiol. no.8:116-132 '60.
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1. Institut mikrobiologii AN SSSR.
(ACTINOMYCETALES)

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Actinomycetes of the fluorescent group. Trudy Inst. microbiol. no.8:133-159 '60. (MIRA 14:1)

1. Institut mikrobiologii AN SSSR.
(ACTINOMYCETALES)

KRASIL'NIKOV, N.A.; NIKITINA, N.I.; KONDRAT'YEVA, I.K.

Actinomyces pneumonicus n. sp., a new species of the globisporus group. Trudy Inst. microbiol. no.8:160-169 '60. (MIRA 14:1)
(ACTINOMYCETALES)

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Actinomycetes of the chromogenes group. Trudy Inst. microbiol. no.8:202-225 '60. (MIRA 14:1)

1. Moskovskiy gosudarstvennyy universitet.
(ACTINOMYCETALES)

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Actinomycetes of the olivochromogenes. Trudy Inst. microbiol. no.8:226-253 '60. (MIRA 14:1)
(ACTINOMYCETALES)

KRASIL'NIKOV, N.A.; AGRE, N.S.

Actinomycetes of the cyanoalbus group. Trudy Inst. microbiol. no.8:254-274 '60. (MIRA 14:1)

1. Moskovskiy gosudarstvennyy universitet.
(ACTINOMYCETALES)

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Actinomycetes of the violaceus group. Trudy Inst. microbiol. no.8:275-337 '60. (MIRA 14:1)
(ACTINOMYCETALES)

KRASIL'NIKOV, N.A.; SKRYABIN, G.K.

Investigation of the field of antibiotics and the antibiotic industry in Japan. Antibiotiki 5 no.3:121-125 My-Je '60. (MIRA 14:6)

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Gibberellin production and the determination of its physiological activity in connection with its use in plant cultivation. Fiziol.rast. 7 no.1:112-120 '60. (MIRA 13:5)

1. K.A. Timiriazev Institute of Plant Physiology and Microbiology Institute of U.S.S.R. Academy of Sciences, Department of Soil Biology of Moscow State University, Moscow, and Kurgan Plant of Medicine Preparations, Kurgan.
(Gibberellin)

KRASIL'NIKOV, N.A.; ZHUKOVA, R.A.; YASHISH, V.B.

Possibility of using antibiotics to protect the outer fibrous sheaths of underground power cables from destruction by micro-organisms. Mikrobiologiia 29 no.3:446-450 My-Je '60. (MIRA 13:7)

1. Institut mikrobiologii AN SSSR.
(ANTIBIOTICS) (ELECTRIC CABLES--MAINTENANCE AND REPAIR)
(BACTERIA, CELLULOSE-DECOMPOSING)

KRASIL'NIKOV, N.A.; YUAN' TSZI-SHEN [Yuan Chi-shêng]

A new species in the group of Actinomyces aurantiacus.
Mikrobiologiia 29 no. 4:482-489 Jl-Ag '60. (MIRA 13:10)

1. Institut mikrobiologii AN SSSR.
(PEIPING REGION--ACTINOMYCES)

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KRASIL'NIKOV, N.A.; YEGOROVA, S.A.

Restoration of pigmentation and antibiotic properties in leucomutants of Actinomyces coelicolor by use of microbial metabolites. Dokl. AN SSSR 134 no.5:1218-1221 O '60. (MIRA 13:10)

1. Chlen-korrespondent AN SSSR (for Krasil'nikov).
(ACTINOMYCES) (VARIATION (BIOLOGY)) (BIOTIN)

KRASIL'NIKOV, N. A., and ASEYEVA, I. V. (USSR)

"The Synthesis of Amino acids by Microorganisms."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

KUCHAEVA, A. G.; KRASIL'NIKOV, N. A.; TAPTIKOVA, S. D.; GESHEVA, R. L.

On the classification of actinomycetes from the lavendulae group. Izv. mikrobiol. inst. (Sofia) 13:103-124 '61.

(STREPTOMYCES)

KRASIL'NIKOV, N.A.; KALAKUTSKIY, L.V.; KIRILLOVA, N.F.

Promicromonospora gen. nov., a new genus of ray fungi. Izv. AN SSSR. Ser. biol. 26 no.1:107-112 Ja-F '61. (MIRA 14:3)

1. Microbiological Institute, Academy of Sciences of the U.S.S.R., Moscow.

(ACTINOMYCES)

KRASIL'NIKOV, N.A.; YUAN' TSZI-SHEN [Yüan Chi-shêng]

Actinosporangium, a new genus of the family Actinoplanaceae. Izv. AN SSSR. Ser. biol. 26 no.1:113-116 Ja-F '61. (MIRA 14:3)

1. Microbiological Institute, Academy of Sciences of the U.S.S.R., Moscow.

(ACTINOMYCES)

KRASIL'NIKOV, N.A.

Basic principles for determining and recognizing species of micro-organisms. Mikrobiologiia 30 no.5:799-808 S-O '61. (MIRA 14:12)

1. Institut mikrobiologii AN SSSR.
(MICRO-ORGANISMS--IDENTIFICATION)

KRASIL'NIKOV, N.A.

Modern achievements in the microbiology of metabolite production.
Vest.AN SSSR 31 no.5:46-54 My '61. (MIRA 14:6)

1. Chlen-korrespondent AN SSSR.
(BIOLOGICAL PRODUCTS)

KRASIL'NIKOV, N.A. (Moskva)

Amino acids from micro-organisms. Usp. sovr. biol. 52 no.2:149-163 S-O '61. (MIRA 14:10)

(AMINO ACIDS) (MICROBIAL METABOLITES)

YEROSHIN, V.K.; KRASIL'NIKOV, N.A.

Selective microbiological oxidation of all the 11-oxy group of hydrocortisone. Dokl. AN SSSR 137 no.4:968-969 Ap '61. (MIRA 14:3)

1. Chlen-korrespondent AN SSSR (for Krasil'nikov).
(CORTISONE) (FUNGI--INDUSTRIAL APPLICATIONS)

KRASIL'NIKOV, N.A.; KUIMOVA, T.F.

Inactivation of antiphagic antibiotics by nucleic acids. Dokl.AN SSSR 138 no.4:938-940 Je '61. (MIRA 14:5)

1. Chlen-korrespondent AN SSSR (for Krasil'nikov).
(ANTIBIOTICS) (BACTERIOPHAGE) (NUCLEIC ACIDS)

S/020/61/141/006/021/021
B103/B147

AUTHORS: Krasil'nikov, N. A., Corresponding Member AS USSR, Aseyeva, I. V., Bab'yeva, I. P., Kaptereva, Yu. V., Shirokov, O. G., and Korshunov, I. S.

TITLE: Biosynthesis of amino acids by soil microorganisms

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 6, 1961, 1480 - 1482

TEXT: 1290 cultures were studied which consisted of a) bacteria, b) actinomycetes, and c) yeasts, isolated from USSR soils. Nutrient media according to T. Asai (see below) were used for a) and b), and according to J. Lodder (see below) for c). It was found that many cultures of soil microbes synthesize a single or several amino acids and excrete them into the nutrient medium. This is true for cultures raised in synthetic nutrient media containing glucose as carbon source and ammonium chloride as nitrogen source (apart from small amounts of other salts). No strong correlation exists between the species of the microbe

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Biosynthesis of amino acids by soil...

and its capability of synthesizing amino acids. Different strains of the same species show a very different behavior in this respect. Nevertheless, a connection can be established in individual cases, at least with the group characteristic of the strains. N. A. Krasil'nikov assumes that the wellknown actively glutaminic-acid producing strain of Micrococcus glutamicus also belongs to the actinomycetes. Usually, several amino acids are exuded into the nutrient media. Cultures producing only one amino acid are rare. The majority of the active producers synthesize alanine. A smaller group of species produces glutaminic and aspartic acids, and very few produce lysine, valine, cystines, et al. Both the quantity and the type of the amino acids depend on the composition of the nutrient medium (particularly on the C and N source, and on vitamins, trace elements, etc.), furthermore on the conditions of growth (temperature, aeration, etc.). Some highly active alanine producers were isolated: four strains of Mycobacterium, which produced from 6 - 8 up to 14 - 16 mg/ml of nutrient medium. Some strains of actinomycetes produced 8 - 9 mg. Many active yeast strains produced 5 mg/ml. Valine producers with an activity of 3 - 4 mg/ml were found among a). From the

strains considered as possible producers of amino acids, strains with increased activity were isolated by selection, which are able to guarantee industrial production. From Mycobacterium cyaneum which produces almost the same quantities of glutaminic acid and alanine varieties were obtained which synthesize exclusively (or dominantly) either glutaminic acid or alanine. Thus, the yield in glutaminic acid was increased by a multiple. There are 2 figures, 1 table, and 5 references: 2 Soviet and 3 non-Soviet. The three references to English-language publications read as follows: Ref.3: T. Asai, K. Aida, K. Oishi, Bull. Agr. Chem. Soc., 21, No.2, 134 (1957); Ref.4: S. Kinoshita, Advances Appl. Microbiol., 1, 201 (1959); Ref.5: J. Lodder, The Yeasts, Amsterdam, 1952.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)
Institut mikrobiologii Akademii nauk SSSR (Institute of Microbiology of the Academy of Sciences USSR)

SUBMITTED: September 20, 1961

KRASIL'NIKOV, N.A.

GALSTYAN, Alesha Shmavonovich, Laboratory of Agrochemistry, Academy of Sciences Armenian SSR, Yerevan - "Fermentation and respiration as indices of biological activity and soil fertility" (Section B, Symposium V)

GERSHENZON, Sergey M., Institute of Zoology, Academy of Sciences Ukrainian SSR, Kiev - "Role of ecological and physiological factors in outbreaks of nuclear polyhedroses in insects" (Section B, Symposium III).

KASI'KIN, Pavel Nikolayevich, Head, Department of Microbiology, Institute of Advanced Training of Physicians, Leningrad - "Coccidiodomycosis-like disease in Russia" (Section E, Symposium XIII)

KRASIL'NIKOV, Nikolay Aleksandrovich, Institute of Microbiology, Academy of Sciences USSR, Moscow - "Antagonistic microbes and their roles in the control of plant diseases" (Section B, Symposium VI)

ZHDANOV, Viktor Mikhaylovich, Institute of Virology imeni D. I. Ivanovsky, Academy of Medical Science USSR, Moscow - (Chairman, Section E, Symposium XII)

Report to be submitted for the Eighth International Congress for Microbiology (IAMS) Montreal, Canada, 19-25 August 62

BUGROVA, V.I., kand. med. nauk; VINOGRADOVA, I.N., kand.biol. nauk; D'YAKOV, S.I., kand. med. nauk; ZHDANOV, V.M., prof.; ZHUKOV-VEREZHNIKOV, N.N., prof.; ZEMTSOVA, O.M., kand. med. nauk; IMSHENETSKIY, A.A., prof.; KALINA, G.P., prof.; KAULEN, D.R., kand. med. nauk; KOVALEVA, A.I., doktor med. nauk; KRASIL'NIKOV, N.A., prof.; KUDLAY, D.G., doktor biol. nauk; LEBEDEVA, M.N., prof.; PERETS, L.G., prof. [deceased]; PEKHOV, A.P., doktor biol. nauk; PLANEL'YES, Kh.Kh., prof.; POGLAZOVA, M.N., kand. biol. nauk; PROZOROV, A.A.; SINITSKIY, A.A., prof.; FEDOROV, M.V., prof. [deceased]; SHANINA-VAGINA, V.I., kand.biol. nauk; VYGODCHIKOV, G.V., prof., zamestitel' otv. red.; ADO, A.D., prof., red.; BAROYAN, O.A., prof., red.; BILIBIN, A.F., prof., red.; BOLDYREV, T.Ye., prof., red.; VASHKOV, V.I., doktor med. nauk, red.; VYAZOV, O.Ye., doktor med. nauk, red.; GAUZE, G.F., prof., red.; GOSTEV, V.S., prof., red.; GORIZONTOV, P.D., prof., red.; GRINBAUM, F.T., prof., red. [deceased]; GROMASHEVSKIY, L.V., prof., red.; YELKIN, I.I., prof., red.; ZASUKHIN, L.N., doktor biol. nauk, red.; ZDRODOVSKIY, P.F., prof., red.; KAPICHNIKOV, M.M., kand. med. nauk, red.; KLEMPARSKAYA, N.N., prof., red.; KOSYAKOV, P.N., prof., red.; LOZOVSKAYA, Ye.S., kand. med. nauk, red.; MAYSKIY, I.N., prof., red.; MUROMTSEV, S.N., prof., red. [deceased];

(Continued on next card)

BUGROVA, V.I.---(continued) Card 2.
NIKITIN, M.Ya., red.; NIKOLAYEVA, T.A., red.; PAVLOVSKIY, Ye.N., akademik, red.; PASTUKHOV, A.P., kand. med. nauk, red.; PETRISHCHEVA, P.A., prof., red.; POKROVSKAYA, M.P., prof., red.; POPOV, I.S., kand. med. nauk, red.; ROGOZIN, I.I., prof. red.; RUDNEV, G.P., prof., red.; SERGIYEV, P.G., prof., red.; SKRYABIN, K.I., akad., red.; SOKOLOV, M.I., prof. red.; SOLOV'YEV, V.D., prof., red.; TRIBULEV, G.P., dotsent, red.; CHUMAKOV, M.P., prof., red.; SHATROV, I.I., prof., red.; TIMAKOV, V.D., prof., red.toma; TROITSKIY, V.L., prof., red. toma; PETROVA, N.K., tekhn.red.;

[Multivolume manual on the microbiology, clinical aspects, and epidemiology of infectious diseases] Mnogotomnoe rukovodstvo po mikrobiologii klinike i epidemiologii infektsionnykh boleznei. Otv. red. N.N.Zhukov-Verezhnikov. Moskva, Medgiz. Vol.1. [General microbiology] Obshchaia mikrobiologiia. Otv. red. N.N.Zhukov-Verezhnikov. 1962. 730 p. (MIRA 15:4)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Zhdanov, Zhukov-Verezhnikov, Vygodchikov, Bilibin, Vashkov, Gromashevskiy, Zdrodovskiy, Rudnev, Sergiyev, Chumakov, Timakov, Troitskiy).

(Continued on next card)

BUGROVA, V.I.---(continued) Card 3.

2. Chlen-korrespondent Akademii nauk SSSR (for Imshenetskiy, Krasil'nikov). 3. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for Planel'yes, Baroyan, Boldyrev, Gorizontov, Petrishcheva, Rogozin). 4. Deystvitel'nyy chlen Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Muromtsev).

(MICROBIOLOGY)

S/026/62/000/003/002/006
D055/D113

AUTHOR: Krasil'nikov, N.A., Corresponding Member of the AS USSR

TITLE: Amino acids and microbes

PERIODICAL: Priroda, no. 3, 1962, 23-27

TEXT: The author gives an account of the uses of amino acids, of methods of producing them and of a series of Soviet experiments carried out to discover active cultures which produce amino acids. These acids are used for treating nervous and cardiovascular complaints, for improving the quality of food products, etc. Soviet production of glutamic acid, the most important of the amino acid preparations, is small and is used only for medical purposes. In a study of soil microflora, the Soil Biology Laboratory of the MGU and the Institut mikrobiologii AN SSSR (Institute of Microbiology, AS USSR) studied some of the cultures which were isolated from various soils of the USSR in order to find active producers of amino acids. It was found that most organisms form very small quantities of amino acids - 0.1-0.5 mg/ml and the most active bacteria are in the micrococcus (20%) and sarcina (18%) groups.

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Amino acids ...

the least active among the non-spore-bearing groups. Among 27 strains of spore-bearing bacteria which were studied, 25 synthesized alanine, 11 - glutamic acid, 2 - valine, 2 - leucine. Of 26 active micrococci, 21 form alanine, 8 - glutamic acid and 1 - valine. Strains of active microbes were isolated which produced, on average, sufficient quantities of amino acids for industrial production. Among spore-bearing bacteria, 3 strains which synthesize alanine in quantities of 8-21 g/l were isolated; from the micro-bacteria group - also 3 strains which produce 2-3 g/l of glutamin acid; from the actinomyces - several strains producing 2-4 g/l of glutamic acid and 3 producing 8-9 g/l of alanine. Some cross-strains were produced which gave 2.5-3 times more glutamin acid than the original strains. I.V.Aseyeva, O.G. Shirokov and I.P.Bab'yeva of the above-mentioned Soil Biology Laboratory and I.S.Popov are mentioned.

Card 2/2

KRASIL'NIKOV, N.A.; KORENYAKO, A.I.; NIKITINA, N.I.

External characteristics in the systematization of actinomyces (Results of the study of the collection of strains of the International Taxonomic Committee. Antibiotiki 7 no.3:3-11 Mr '62. (MIRA 15:3)

(ACTINOMYCES)

KRASZILNIKOV, N.A. [Krasil'nikov, N.A.]

Role of microorganisms in the life of plants. Agrokem talajtan 11 no.3-4:413-436 D '62.

1. Soil Biology Department, Faculty of Biology and Soil Science, National Lomonosov University, Moscow, SSSR.

KRASIL'NIKOV, N.A.

Effect of soil micro-organisms on the growth and yield of plants. Vest. Mosk. un. Ser. 6: Biol., pochv. 17 no.3:3-25 My-Je '62. (MIRA 15:6)

1. Kafedra biologii pochv Moskovskogo universiteta.
(RHIZOSPHERE MICROBIOLOGY)

KRASIL'NIKOV, N.A.

Basic principles of grouping actinomycetes producing antibiotics. Izv.AN SSSR.Ser.biol. 27 no.4:576-591 Jl-Ag '62. (MIRA 15:9)

1. Institute of Microbiology, Academy of Sciences of the U.S.S.R., Moscow.

(ACTINOMYCES) (STREPTOMYCES) (ANTIBIOTICS)

KRASIL'NIKOV, N.A.

Amino acids and microbes. Priroda 51 no.3:23-27 Mr '62.
(MIRA 15:3)

1. Chlen-korrespondent AN SSSR.
(AMINO ACIDS) (MICROBIOLOGICAL RESEARCH)

KUIMOVA, T.F.; KRASIL'NIKOV, N.A.

Specificity of the inhibiting effect of DNA on the antiphagic antibiotic 81. Dokl.AN SSSR 145 no.6:1385-1388 Ag '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
2. Chlen-korrespondent AN SSSR (for Krasil'nikov).
(NUCLEIC ACIDS) (ANTIBIOTICS) (BACTERIOPHAGE)

KRASIL'NIKOV, N.A., prof., otv. red.; DROBKOV, A.A., doktor biol. nauk, red.; ZYYAGINTSEV, D.G., kand. biol. nauk, red.; CHISTYAKOVA, K.S., tekhn. red.

[Microorganisms in agriculture] Mikroorganizmy v sel'skom khoziaistve; trudy Mezhvuzovskoi nauchnoi konferentsii. Moskva, Izd-vo Mosk. univ., 1963. 207 p. (MIRA 16:7)

1. Chlen-korrespondent AN SSSR (for Krasil'nikov).
(Agricultural microbiology)

KUCHAEVA, A.G.; GESHEVA, R.L.; TAPTIKOVA,S.D.; KRASIL'NIKOV,N.A.

On some characteristics of actinomycetes from the pink-colored group. Izv. microbiol. inst. 15:59-62 '63

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(Gibberellin)

L 3963[-66 EWT(1)/EWT(m) SCTB DD/GD-2

ACC NR: AP6018849 SOURCE CODE: UR/0020/65/163/002/0486/0487

AUTHOR: Krasil'nikov, N. A. (Corresponding member AN SSSR); Drobkov, A. A.

ORG: none

TITLE: Accumulation of natural radioactive elements by azotobacter, algae, and protozoa

SOURCE: AN SSSR. Doklady, v. 163, no. 2, 1965, 486-487

TOPIC TAGS: algae, protozoology, fungus, bacteriology, bacteria, alpha particle, radium, nuclear emulsion, alpha radiation, silver compound

ABSTRACT: Azotobacter cells grown on Czapek's medium containing radium were placed on slides, fixed, and, in the dark, covered with a thin layer of A-2 nuclear photoemulsion, which is highly sensitive to alpha radiation. The cells were then left exposed for some time in darkness after which the slides with the biomass were developed, fixed, dried, and photographed under the microscope. The photographs clearly showed the tracks of the alpha particles released by the Azotobacter cells. All the cells did not form tracks, although they contained radium and its decay products. The fungus Phoma, various species of algae and protozoans were cultured in Knop's nutrient medium with radium. The subsequent procedure was the same as for Azotobacter. But these organisms failed to form tracks of alpha particles, which indi-

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