

SEREBRENNIKOVA, F.G., inzh.; TARUSHKINA, G.A.

Soviet textile fabrics and knit goods at international fairs and  
exhibitions in 1959. Tekst. prom. 19 no.7:91 JI '59.

(MIRA 12:11)

(Textile industry--Exhibitions)

SHVARTSMAN, S.Ya.; TARUSHKINA, G.A.; SAMOKHINA, N.M.

Heroes of socialist labor rank first in production. Tekst.pron.  
20 no.7:55-59 JI '60. (MIRA 13:7)

1. Predsedatel' fabrichnogo komiteta profsoyuza tekstil'shchikov.  
(Textile workers)

Country : USSR T  
Category : Human and Animal Physiology, Neuromuscula  
          : Physiology  
Abs. Jour. : Ref Zhur Biol., No. 2, 1959, No. 8380  
Author : Tarushkina, Yu.  
Institut. :  
Title : Analysis of the Alimentary Glycemia Associated  
          with Muscular Activity.  
Orig Pub. : Ukr. biokhim., zh., 1958, 30, No. 2, 240--247  
Abstract : no abstract

Card: 1/1

TARUSHKINA, Yu.M.

Analysis of alimentary glycemia during muscular activity [with  
summary in English]. Ukr.biokhim.zhur. 30 no.2:240-247 '58  
(MIRA 11:6)

1. Sektor biokhimii Leningradskogo nauchno-issledovatel'skogo  
instituta fizicheskoy kul'tury.  
(BLOOD SUGAR)

**SOLDATOV, V., elektromekhanik; TARUSHKO, G., inshener.**

**Electric torque meter for measuring the torque and vibration of  
shafts. Mor. i rech.flot 14 no.8:28-29 Ag 154. (MLRA 7:8)  
(Shafts and shafting) (Measuring instruments)**

TARUSHKOVA, N.N.; KUKHARENKO, A.A.; TATARSKIY, V.B., red.; GOL'DBERG,  
R.Ya., red. izd-va; GUROVA, O.A., tekhn. red.

[Atlas of placer minerals] Atlas mineralov rossypei. Moskva, Gos.  
nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr, 1961. 435 p.  
(MIRA 14:11)

(Minerals)

TARUSIN, P. P. and ROMANOV, A. I.

"The organization of mechanized coal mining in No. 5 Trudovskaya Pit,"  
Mechanization of Labor Consuming and Heavy Work, 1951.

TARUSIN, I. P. ROMANOV, A. I.

"Organization of Mechanized Coal Mining in Trudovskaya Mine No 5"  
Mekh Trud i Tyazh Rabot No 9, Sep 1951 33-35 pp.



BURTSEV, I.Ya., laureat Stalinskoy premii; TARUSIN, P.P., laureat Stalinskoy premii.

On the question of repairing deformed metallic supports made of special profile beams. Ugol' 29 no.10:40-45 0 '54. (MLRA 7:11)

1. Shakhta No. 29 im. Stalina tresta Stalinotol'.  
(Mine timbering)

AKHREMENKO, G.K.; TARUSIN, P.P.

Comments on V.I.Kravchenko's article " Preventing avalanches of entries  
in flat beds." Bezop.truda v prom. 7 no.2:17-18 F '69. (MIRA 16:2)

1. Glavnyy inzh. shakhty No.10-bis Doneskogo soveta narodnogo  
khozyaystva (for Akhremenko). 2. Zamestitel' glavnogo inzhenera  
po gornym rabotam shakhty No.17-bis Donetskogo soveta narodnogo  
khozyaystva (for Tarusin).

(Coal mines and mining—Safety measures) (Kravchenko, V.I.)

SOV/136-58-5-15/22

**AUTHORS:** Davankov, A.B., Laufer, V.M., Tarusin, V.P.,  
Neginskiy, O.Ye and Ruzhnikov, M.S.

**TITLE:** A Pilot-plant Scale Experiment on the Extraction of  
Gold from Ion-exchange Resins After Adsorption  
(Polupromyshlennyy opyt vydeleniya zolota iz ioncobmennyykh  
smol posle adsorbtsii)

**PERIODICAL:** Tsvetnyye Metally, 1958, Nr 5, pp 81 - 82 (USSR)

**ABSTRACT:** The authors discuss some examples of gold recovery from  
ion-exchange resins being effected after ashing the resin.  
They describe work at an enterprise controlled by the  
Ministerstvo finansov SSSR (Finance Ministry of the USSR)  
in which gold was extracted from spent electrolytes with  
the aid of type N-0 resin in two 1 665-mm high tubes  
(73 mm dia.) in series. 97.6 litres of spent cyanide  
electrolyte was passed at 10 litres/hour and an ash  
containing 73% gold was finally obtained. The gold was  
extracted from the ash by high-frequency melting under  
borax in a graphite crucible in separate portions. The  
experimental data are tabulated, showing 99.81% recovery of

Card 1/2

SOV/136-58-5-15/22

A Pilot-plant Scale Experiment on the Extraction of Gold from Ion-exchange Resins After Adsorption

the gold present in the original solution. The authors found that with careful ashing in ceramic vessels and fusion under borax, complete extraction of the gold from the ashed residue was obtained.

There are 1 table and 4 Soviet references

1. Ion exchange resins--Adsorptive properties
2. Gold--Processing
3. Gold--Production
4. High frequency heating--Applications

Card 2/2

8/138/62/000/012/008/010  
A051/A126

**AUTHORS:** Shitikov, V. P., Vinogradov, P. A., Tarusina, M. S.

**TITLE:** Increase in thermal and tear resistance of frictional commercial asbestos articles

**PERIODICAL:** Kauchuk i rezina, <sup>21-</sup>no. 12, 1962, 25 - 26

**TEXT:** An attempt to increase thermal and tear resistance of frictional commercial asbestos articles was made by introducing chloranil - a halide-organic compound based on CKB (SKB), into the asbestos mixture. Experimental results showed that chloranil increases hardness, specific percussion viscosity and tear resistance of asbestos-frictional vulcanizates, and reduces their friability. The friction coefficient undergoes very little change up to temperatures of 360 - 370°C. Vulcanizates prepared by the dry mixing method, adding chloranil, have 2 to 3 times less linear wear than serial vulcanizates [tests on the И-47 (I-47) tool bench]. Road tests further proved the asbestos-frictional articles, based on the SKB material (serial rubber) and chloranil, to be superior to articles without chloranil. There are 2 figures and 1 table. ✓

Card 1/2

Increase in thermal and...

S/138/62/000/012/008/010  
A051/A126

ASSOCIATION: Vse soyuznyy nauchno-issledovatel'skiy institut asbesto-tekh-  
nicheskikh izdeliy  
Yaroslavl'skiy zavod SK i Yaroslavl'skiy zavod asbesto-tekhnicheskikh  
izdeliy  
(All-Union Scientific and Research Institute of Commercial Asbestos  
Articles  
Yaroslavl' Plant of SR and Yaroslavl' Plant of Commercial Asbestos  
Articles)

Card 2/2

TARUSOV, B. N.  
BC

A-3

Dielectric constant of muscle. B. N. TARUSOV.  
(Compt. rend. Acad. Sci. U.R.S.S., 1934, 3, 253-256).  
The val. for the fresh sartorius muscle of the frog  
was 84, increasing in 18-24 hr. to 86, with a simul-  
taneous rise in the intracellular conductivity (I) and  
the (I) measured at low frequencies. In 25-40 hr.  
the dielectric val. falls to 78, but (I) remains const.  
H. J. F.

ASG-314 METALLURGICAL LITERATURE CLASSIFICATION

FORM NUMBER  
SERIAL ONE ONE 111

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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TARUSOV, B.N.

CR

11E

The condition of potassium within the erythrocytes.  
 B. N. Tarusov and E. V. Burlakova. *Bull. Acad. Sci. Div. Chem. Sci. USSR*, 4(8) 1(1950) (in English). - Hemolysis of rabbit blood by diln. with 20% of H<sub>2</sub>O does not change the elec. cond. nor increase the amt. of unbound K. Hemolysis with saponin causes a drop in the polarization capacity of the blood and increases the K content of the serum from 10 to 23 mg. % to 65-95 mg. %. Thus it is not the cellular membrane which prevents escape of K from the cell, and K does not exist as the free ion in the cell, but is undoubtedly combined with cell proteins.  
 S. A. Kartala

ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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TARUDOV, B. N., 1927-

"On the influence of osmotic conditions on oxidizing processes. Zhurn. Eksper. biologii i Meditsiny 16, 229-240.

SO: Collection of Works on Nematodes of Agricultural Plants, Ed. by E. S. Kir'yanova, Gosizdat. Kolkhoz i Sovkhoz Lit., 1939, Moscow-Leningrad N/5  
632.5  
.06

TARUSOV, PROF. B.  
USSR/Biology - Biophysics

Card 1/1 : Pub 129-22/24

Author : Prof. B. Tarusov

Title : New chairs of the university: Biophysics and its tasks

Periodical : Vest. Mosk. un., Ser. Fizikomat. i yest. nauk, 9,2, 160-164, Mar 54

Abstract : The activities comprising the field of biophysics are defined and discussed. These include: the use of tracer atoms to investigate the physical chemistry of living protoplasm; the study of bioelectric currents in the body; the physical processes involved in the excitation of cells and the transmission of this excitation by the cells; and the effects of various forms of radiant energy on living matter. No references are cited.

Institution : Chair of Biophysics

Submitted : --

TA RUSOV, BORIS NIKOLAYEVICH

N/5  
649.12  
.T1

Osnovy Biologicheskogo Deystviya 'Radioaktivnykh Izlucheni' (Basic Biological  
'Reaction of Radioactive 'Radiations) Moskva, Medgiz, 1955. 137 P. Illus., Tables,  
Diagrs. "Literatura" P. 134-(138)

TARUSOV, B.N.  
TARUSOV, Boris Nikolayevich

[Primary processes of radiation disease] Pervichnye protsessy  
luchevogo porazhenia. Moskva, Medgiz, 1957. 155 p. (MIRA 11:2)  
(RADIATION SICKNESS)

TARUSOV, B.N. (Moskva)

Physicochemical mechanisms of the biological action of ionizing radiations. Usp.sovr.biol. 44 no.2:173-185 S-0 '57. (MIRA 10:12)  
(RADIATION--PHYSIOLOGICAL EFFECT)

TARUSOV, B. N.

"Primary Phisico-Chemical Radiation Induced Reactions in Biolipids and Prophylactic Effect."

paper to be presented at 2nd UN Intl.' LConf. on the peaceful uses of Atomic Energy, Geneva, 1 - 13 Sept 58.

TARUSOV, B. N.

"The Effect of Ionizing Radiation on Animal Fats" p. 199

Truly Transactions of the First Conference on Radioaction Chemistry, Moscow,  
Izd-vo AN SSSR, 1958. 330pp.  
Conference -25-30 March 1957, Moscow

TARUSOV, B.N.

AUTHOR: Troshin, A. S., Doctor of Biology SOV/30-58-7-22/49

TITLE: News in Brief (Kratkiye soobshcheniya) The Second International Conference on the Mechanism of Stimulation (Vtoroye mezhdunarodnoye soveshchaniye po mekhanizmu vzbuzhdeniya)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 7, pp. 103 - 104 (USSR)

ABSTRACT: The conference was held at the Humboldt-University (Universitet im. A. Gumbol'dta) in Berlin, in the DDR (German Democratic Republic)(GDR) from March 31 to April 2. It was attended by physiologists, biochemists and biophysicists, who with respect to the mechanism of stimulation, take two different views. One group proceeds from the albumin theory developed by D.N.Nasonov and his students. The other group relies on the principles of the diaphragm theory proposed by A.Hodgkin, and the Cambridge School(kembridzhskaya shkola) of physiologists. 24 reports were submitted. They are partly listed below:

1)V.Ya.Aleksandrova (USSR) on the Albumin Theory of Injury and Stimulation.

2)B.N.Tarusov (USSR) on Electrical Parameters of the Cells in

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News in Brief. The Second International Conference  
on the Mechanism of Stimulation

SOV/30-58-7-22/49

Different Functional States.

- 3) E. Ernst, Hungary (Vengriya) showed that individual fibrils react to every electrical irritation by a distinctive contraction.
- 4) G. M. Frank, USSR, on Structural Changes in Nerve Fibers Caused by Excitation.
- 5) A. Kaladzhiyeva, Bulgaria (Bolgariya), A. Wolf (Vol'f), V. Linke, DDR, Ye. M. Makovskiy, Roumania (Rumyniya) investigated the properties of solutions of native albumins.
- 6) G. Vogel (Fogel'), G. Krause (Krauze), G. John (Dzhon), DDR, described the results obtained by the investigation of the influence exercised by temperature and various poisons of fermentation on the monodular (monodal'nyy) active current.
- 7) G. Lippmann, E. Schubert (Shubert), DDR, on the Influence exercised by Metabolism Upon the Process of Cell-Excitation.
- 8) E. Gutman, Ts. Vodichka, Czechoslovakia (Chechoslovakiya) on Impulseless Processes in Nervous Structures.
- 9) L. Lyubinskaya, Poland (Pol'sha), K. Cheng, China (Kitay), on the Morphological Structure of Some Elements of the Nervous System.

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News in Brief. The Second International Conference  
on the Mechanism of Stimulation

SOV/30-58-7-22/49

An animated discussion of the reports took place after the  
papers had been read.

Card 3/3

TARUSOV, B.N.

**AUTHORS:** Kaverzneva, Ye. L., Doctor of Chemical Sciences, Khurgin, Yu. I. SOV/30-58-9-42/51

**TITLE:** Biologically Active Polymer Compounds (Biologicheski aktivnyye polimery) All-Union Conference on Highly Molecular Compounds (Vsesoyuznaya konferentsiya po vysokomolekulyarnym soyedineniyam).

**PERIODICAL:** Vestnik Akademii nauk SSSR, 1958, Nr 9. pp. 111 - 113 (USSR)

**ABSTRACT:** The X All Union Conference took place in Moscow from June 11th to 13th. About 400 representatives of scientific institutions and colleges took part. In his opening-speech V.A.Kargin stressed the fact that, as there are structural analogies between natural and synthetic polymer compounds the task is set to bring about a controlled synthesis of models of biological objects. Further reports were delivered by: B.N.Tarusov, A.G.Pasynskiy on some peculiarities of biological textures. G.M.Frank on the submicroscopic structure of some cell textures and muscle fibrils. K.G.Ioffe gave particulars on the location of 18 amino-acids

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Biologically Active Polymer Compounds. All Union  
Conference on Highly Molecular Compounds.

SOV/30-58-9-42/51

in the tyrosine bearing peptide.

M.I.Plekhan on some peculiarities concerning peptides.

Ye.D.Kaverzneva, F.V.Shmakova on the extraction of carbohydrate bearing peptide from egg albumin and the determination of its amino-acid content.

S.Ye.Bresler, S.Ya.Frenkel' consider the configuration of the individual globular protein to be metastable.

V.A.Belitser recommends to distinguish denaturation from some other slight modifications of structure.

V.I.Kasatochkin, R.A.Dulitskaya examined kinetics and thermodynamics of renaturation under pressure.

M.B.Kalkmakarova on the modification of structure of complex proteins.

D.N.Shigorin, N.V.Mikhaylov examined the typical bands in infrared adsorption spectra.

N.S.Andreyeva recommended a new classification of the kinds of polypeptide chains according to structure.

M.I.Millionova, N.S.Andreyeva constructed a model of polymer glycy-L-proline.

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Biologically Active Polymer Compounds. All Union  
Conference on Highly Molecular Compounds.

SOV/30-58-9-42/51

A.L.Zaydes on characteristics of various collagens.  
Yu.A.Vladimirov, S.V.Konev on the mechanism of energy  
migration of light quanta in protein.  
M.S.Volkova, A.G.Pasynskiy made use of the radiation method  
for molecular weight determination of protein.  
G.V.Samsonov, R.B.Ponomareva, L.V.Dmitrenko gave particulars  
on the chromatographic purity determination of protein.  
A.N.Belozerskiy spoke about the composition of nucleinic  
acids secreted by micro-organisms and plants.  
V.S.Diskina, V.S.Tongur, D.M.Spitkovskiy spoke about the  
production of desoxy nucleoproteids by means of serum  
albumin and  $\alpha$ -Chymotrypsin.  
S.Ye.Bresler, Kh.M.Rubina on the part played by ribonucleic  
acid in the fermentative biosynthesis of protein.  
M.A. Prokof'yev and Z.A. Shabarova mention experimentally  
obtained data on the synthesis of derivatives of amino acids with  
nucleotides and nucleosides.

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Biologically Active Polymer Compounds. All Union  
Conference on Highly Molecular Compounds.

SOV/30-58-9-42/51

A.S. Spirin and L.P. Gavrilova reported on the results of investigations of ribonucleic acid of the tobacco mosaic virus. P.S. Vasil'yev spoke about the protein structures which are necessary for blood-transfusion. M.F. Shostakovskiy about how polyvinylpyrrolidone is obtained and how it is used as blood substitute. M.G. Brazhnikova dealt with the investigation of a large group of antibiotics of polypeptide type. The members of the conference stressed the necessity of the establishment of a special institute for protein research. It was recommended to promote the training of teams in the corresponding fields of science.

Card 4/4

U  
TARASOV, B. N.

"Principles of Biological Action of Radioactive Radiation," Moscow, 1954.

Translation of pp. 3-138, Translation No. 555, 4 Jun 56

USSR/Human and Animal Physiology - The Effect of Physical Factors. T  
Ionizing Radiation.

Abs Jour : Ref Zhur Biol., No 3, 1959, 13366

Author : Tarusov, B.N.  
Inst :  
Title : Primary Physical-Chemical Processes in Radiation  
Sickness

Orig Pub : Tr. Vses. konferentsii po med. radiol, Eksperim. med.  
radiol. M., Medgiz, 1957, 7-11

Abstract : Summary. Results are rendered on an investigation devoted to a clarification of the role of the fatty phase of cells as a basic source of toxic products which are formed in the organism as a result of ionized radiation and which sharply manifested hemolytic effects ("hemolytic factor"). Extracted from homologous fractions of homogenates of various organs of irradiated animals (principally from the liver and

Card 1/3



USSR/Human and Animal Physiology- The Effect of Physical Factors. T  
Ionizing Radiation.

Abs Jour : Ref Zhur Biol., No 3, 1959, 13366

spleen), these products in their physical-chemical aspects are identical with unsaturated fatty acids which are considered to be an end product of chain reactions occurring in cellular fats with branching chains. The rate of their formation and accumulation depend on the dose of radiation. With minimal lethal doses they accumulate up to the expiration of the animal, and the kinetics of this process conform with the course of development of total radiation sickness. These products are not found in the tissues of surviving animals, and they are observed only in the first day or two in animals irradiated with non-lethal doses, and then they gradually disappear. Resolution of the question about the primary pathogenesis of radiation sickness must look to the kinetics of the reaction which originates in fatty phases of the cells

Card 2/3

USSR/Human and Animal Physiology - The Effect of Physical Factors. T  
Ionizing Radiation.

Abs Jour : Ref Zhur Biol., No 3, 1959, 13366

with radiation; it is possible to assume the formation of toxic steroids in them besides the unsaturated fatty acids. A definite role is also derived from other reactions (depolymerization of nucleoproteins), which arise from unbranched chains ("attenuated reactions"), the pathogenic importance of which grows with increased dosage and potency and acquires decisive significance in very large doses leading to death by "exposure". -- E.B. Glikson

Card 3/3

EXCERPTA MEDICA Sec 14 Vol 13/10 Radiology Oct 59

1803. PHYSICO-CHEMICAL MECHANISM OF THE BIOLOGICAL ACTION OF  
IONIZED RAYS (Russian text) - Tarusov B. N. Moscow - USP.SOVR.  
BIOL. 1957, 44/5 (173-185) Graphs 3

Some theories of the actions of X-rays and  $\gamma$ -rays are briefly discussed, and the theory of the second (delayed) stage in irradiation with minimal lethal doses is inferred. According to this theory minimal amounts of oxidation products of various lipids are produced on irradiation, which have an autocatalytic action. In this way the toxic substances accumulate slowly. Petráň - Prague (1, 14)

BURLAKOVA, Ye.V.; KOL'S, O.R.; KRIGER, Yu.A.; TARUSOV, B.N., prof.,  
red.; PCHELIN, V.A., red.; LIPKINA, T.G., red. izd-va;  
MARSIANOVA, R.K., tekhn. red.

[Laboratory manual in general biophysics in eight volumes]  
Praktikum po obshchei biofizike v vos'mi vypuskakh. Moskva,  
Gos. izd-vo "Sovetskaya nauka". No. 1. [Physicochemical  
methods in biology] Fiziko-khimicheskie metody v biologii.  
1958. 214 p. (MIRA 12:5)  
(Biophysics--Laboratory manuals)

KHOMAZYUK, Vasil'y Grigor'yevich; KARUSOV, B.M., prof., obshchiy red.;  
LISFVIN, V.S., red.; LIPKINA, I.O., red.izd-va; TITOVA, L.L.,  
tekh.red.

[Practical work in general biophysics in 8 parts] Praktikum  
po obshchei biofizike v vos'mi vypuskakh. Moskva, Gos.izd-vo  
"Sovetskaya nauka." Pt.2. [Elements of electronics] Elementy  
elektroniki. 1958. 135 p. (MIRA 12:8)  
(Electronics)

TARUSOV, B. N.

21(4); 17(0) PHASE I BOOK EXHIBITION SOV/2008

International Conference on the Peaceful Uses of Atomic Energy. 2d. Geneva, 1958  
Doklady sovetskikh uchenykh; radiobiologiya i radiofizicheskiye meditsinskije  
issledovaniya [Reports of Soviet Scientists; Radiobiology and Radiation Medicine]  
Moskva: Minister SSSR, 1958. 429 p. 8,000 copies printed. (Series:  
Vostochnyia Mezhmorskoe Nauchnoissledovatel'skoe Upravlenie  
Trudy, tom 5)

General Ed.: A.V. Lebedevskiy, Corresponding Member, USSR Academy of Medical  
Sciences; Ed.: L.M. Shirkovskiy, Tech. Ed.: Ye.I. Masal'.

PURPOSE: This book is intended for physicians, scientists, and engineers  
as well as for professors and students at venues where radiobiology and  
radiation medicine are taught.

COVERAGE: This is Volume 5 of a 6-volume set of reports delivered by Soviet  
scientists at the Second International Conference on the Peaceful Uses of  
Atomic Energy, held on September 2-13, 1958, in Geneva. Volume 5 contains  
32 reports edited by Candidates of Medical Sciences S.V. Levinitskiy and V.V.  
Sedov. The reports cover problems of the biological effects of ionizing  
radiation, future consequences of radiation in small doses, genetic effects  
of radiation, treatment of radiation sickness, uses of radioactive isotopes  
in medical and biological research, uses of atomic energy for diagnostic  
and therapeutic purposes, soil absorption of uranium fission products,  
their intake by plants, and their storage in plants and foodstuffs.  
References accompany each report.

Reports of Soviet Scientists (cont.) SOV/2008

LITVINOV, M.M., and D.M. KIRKOROV. Changes Appearing in the Nervous System Following the Ionizing Radiation Effect (Report No. 2112)	74
Shakhmurov, A.K. Role of Supravital Glucose in the Pathogenesis of Radiation Sickness (Report No. 2113)	95
Yakovlev, B.H. Primary Reactions in Molluscs Under the Action of Ionizing Radiation (Report No. 2046)	105
Juris, A.M., and A.L. Shabdash. The Importance of Change in the Native State of Melanocytes in Radiation Injury (Report No. 2119)	110
Frank, O.M., Ed. Al'ladzhakov, and A.L. Zaslavskiy. Some Problems in the Bio- Physical Analysis of Radiobiological Effects (Report No. 2217)	123
Smirnov, B.N. Some Tissue and Cell Reactions to the Ionizing Radiation Effect (Report No. 2086)	139
Al'manov, G. I., and A.I. Kulmanova. Electron Paramagnetic Resonance Spectra of Irradiated Amino-Acids, Peptides, Proteins, and Lyophilized Tissues (Report Cont. 3/7)	152
	172

KOROGODIN, V.I.; TARUSOV, B.M.; TAMBIYEV, A.Kh.

Relation of postirradiation restoration reactions to the density of cell suspension, temperature and oxygen pressure [with summary in English]. Biofizika 4 no.2:224-227 '59. (MIRA 12:4)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova.

(YEASTS, effect of radiations,  
gamma rays, eff. of suspension density, temperature  
& oxygen on post-irradiation reactions (Rus))

(GAMMA RAYS, effects,  
on yeasts, eff. of suspension density, temperature  
& oxygen on post-irradiation reactions (Rus))

TARUSOV, Boris Nikolayevich, prof.; SHAPIRO, F.B., red.; YEZHOVA, L.L.,  
tekhn. red.

[Essentials of biophysics and biophysical chemistry] Osnovy  
biofiziki i biofizicheskoi khimii. Moskva, Gos. izd-vo  
"Vysshaya shkola." Pt. 1. 1960. 222 p.

(MIRA 14:5)

(BIOPHYSICS)



41731

S/829/60/000/000/004/005  
D243/D308

27 1230

AUTHOR: Tarusov, B.N.

TITLE: Chain reactions in the damage of cells by ionizing radiation

SOURCE: Fiziko-khimicheskiye i strukturnyye osnovy biologicheskikh yavleniy; sbornik rabot. Inst. biol. fiz. AN SSSR, Moscow, Izd-vo AN SSSR, 1960, 127-132

TEXT: The author states that little work has been done on the mechanism of the after-effects of radiation on cells, it being thought that the radiation effect must appear before or during the first cell division. This was refuted by several authors, including V.I. Korogodin, working with yeast, who recorded three mortality maxima, which depended on the strength of the lethal radiation dose (Biofizika, 2, 2, 1957) and represent three primary radiation reactions developing at different rates and determining the post-radiation reactions. The effect of dose strength on the latent period, and the role of oxygen, are considered. K.D. Kolontarov discovered

Card 1/2

Chain reactions ...

S/829/60/000/000/004/005  
D243/D308

an upper and lower limit of oxygen pressure between which the cells are most sensitive to radiation and that O<sub>2</sub> pressure influenced the third maximum most. The connection between the oxidation reactions occurring on radiation and natural exchange processes in the cell are discussed and experiments are described which try to modify these exchange processes. The author concludes that one of the reactions associated with the third maximum has the characteristics of a chain, ramification oxidation reaction, as demonstrated by the presence of an upper and lower oxygen threshold. This reaction is linked with exchange processes and, probably, ions, radicals, and peroxides released during exchange reactions can play a part in the chain oxidation. A reduction effect occurs as a result of the destruction of intermediate products, this spontaneous destruction proceeding according to an exponential law and independent of oxygen pressure. There are 10 references.

ASSOCIATION: Noskovskiy gosudarstvennyy universitet im. Lomonosova (Moscow State University im. Lomonosov)

Card 2/2

TARUSOV, B.N.

Current problems in biophysics. Biul.MOIP. Otd.biol. 65 no.3:141  
My-Je '60. (MIRA 13:7)

(TARUSOV, B.N.)

BURLAKOVA, Yelena Vladimirovna; VEPRINTSEV, Boris Nikolayevich; KOL'S, Ol'ga Romanovna; KRIGER, Yuriy Arkad'yevich; TARUSOV, B.N., prof., red.; SHAPIRO, F.B., red.; CHERKASOVA, V.I., red. izd-va; GRIGORCHUK, L.A., tekhn. red.

[Laboratory manual of general biophysics; in eight parts] Praktikum po obshchei biofizike; v vos'mi vypuskakh. Pod obshchei red. B.N. Tarusova. Moskva, Gos. izd-vo "Vysshaya shkola." Nos.3-4. [Investigation of bioelectric phenomena in tissues and cells] Issledovaniya bioelektricheskikh iavlenii v tkaniakh i kletkakh. 1961. 259 p. (MIRA 14:8)

(ELECTROPHYSIOLOGY—LABORATORY MANUALS)

TARUSOV, B.N., POLIVODA, A.I., ZHURAVLEV, A.I.

"Detection of Very Low Intensity Radiations from Animal Tissues, Their Mechanism and Kinetics."

report presented at the Intl. Biophysics Congress, Stockholm, Sweden, 31 July-4 August 1961.

Department of Biophysics, Moscow State University, Moscow, USSR.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755020014-6  
APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755020014-6

KHAMAZYUK, Vasilii Grigor'yevich; TARUSOV, B.N., prof., red.; IVANOV,  
I.A., red.; GOROKHOVA, S.S., tekhn. red.

[Practical work in general biophysics in eight parts] Praktikum  
po obshchei biofizike v vos'mi vypuskakh. Pod obshchei red.  
B.N.Tarusova. Moskva, Gos. izd-vo "Vysshaya shkola." No.5.  
[Dosimetry of ionizing radiations] Dozimetriia ioniziruiushchikh  
izluchenii. 1961. 243 p. (MIRA 15:2)  
(Radiation--Dosage) (Radiography)

**POLIVODA, A.I.; TARUSOV, B.N.; ZHURAVLEV, A.I. (Moskva)**

**Luminescence of skeletal formations under the influence of  
radiation. Med.rad. no.10:90 '61. (MIRA 14:10)  
(RADIATION—PHYSIOLOGICAL EFFECT) (BONES)  
(LUMINESCENCE)**

TARUSOV, B.N.; POLIVODA, A.I.; ZHURAVLEV, A.I.

Detection of chemoluminescence in the liver of irradiated mice.  
Radiobiologia 1 no.1:150-151 '61. (MIRA 14:7)  
(X RAYS - PHYSIOLOGICAL EFFECT)  
(PHOSPHRESECECE)



ZHURAVLEV, A.I., POLIVODA, A.F.; TARUSOV, B.N.

Mechanism of radical and peroxide inactivation by natural tissue  
antioxidants. Radiobiologia 1 no.3:321-324 '61. (MIRA 14:10)  
(ANTIOXIDANTS) (RADICALS (CHEMISTRY)) (PEROXIDES)

S/190/61/003/008/017/019  
B110/B215

1578610  
AUTHORS: Kozlov, Yu. P., Tarusov, B. N.

TITLE: Radiation grafting of polyvinyl pyrrolidone on wheat seeds

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 8, 1961, 1265-1271

TEXT: The present paper deals with the grafting of polymers on seeds of *Triticum vulgare* (winter-wheat) of the year 1959. Vinyl pyrrolidone (VP) which is readily soluble in water, was chosen as monomer. Dried seeds (~15 g) were irradiated by a ГУТ-Co<sup>60</sup>-400 (GUT-Co<sup>60</sup>-400) device with doses of 10-100 kr (3-33 min) in the presence of oxygen and also in vacuo (5·10<sup>-5</sup> mm Hg). The experiments were performed at 30, 50, and 70°C for 2-24 hr. Control experiments were conducted under the same conditions without irradiation. The authors measured the percentual weight increase of the seeds dried again after treatment, which was due to an increase in the amount of polyvinyl pyrrolidone (PVP). Table 1 gives the results for 30°C and 24 hr. The temperature and pressure dependence of grafting is shown in Fig. 3. The following results were obtained: 1) A 5 % VP solution is most effective. 2) Increase of the degree of grafting with

Card 1/4

S/190/61/003/008/017/019  
B110/B215

Radiation grafting of...

temperature in the presence of oxygen. The decomposition of peroxide compounds formed by irradiation in the presence of oxygen is assumed to cause grafting. 3) Low degree of grafting at high temperatures in the absence of O<sub>2</sub>. In this case, radicals are formed first, whose recombination is accelerated at high temperatures, so that they become ineffective. There are 3 figures, 2 tables, and 11 references: 7 Soviet and 4 non-Soviet. The most important references to English-language publications read as follows: Ref. 4: A. Chapiro, Industr. Plast. Mod., 2, 34, 1957. Ref. 6: A. Chapiro, Industr. Plast. Mod., 2, 49, 1957.

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

SUBMITTED: January 17, 1961

S/190/61/003/008/018/019  
B110/B215

**AUTHORS:** Tarusov, B. N., Kozlov, Yu. P.

**TITLE:** Effect of radiation grafting of polyvinylpyrrolidone on the biological functions of wheat seeds

**PERIODICAL:** Vysokomolekulyarnyye soyedineniya, v. 3, no. 8, 1961, 1272-1276

**TEXT:** In previous papers (Ref. 10: Vysokomolek. soyed., 3, 1264, 1961) the authors showed that the treatment of the seeds of winter-wheat (*Triticum vulgare*) with vinylpyrrolidone (VP) causes the grafting of poly-VP (PVP) on the seeds. Treatment with  $\gamma$ -rays accelerated the process. The present paper deals with the effect of aqueous VP solutions and of PVP grafting on the biological reaction of the seeds. Methods of treatment and irradiation are discussed in Ref. 10. The experiments were conducted at 50°C in the presence of oxygen. The criteria of the biological reaction were: 1) the germinating power of the seeds (150-200 seeds in Petri dishes with water, irradiation with a daylight lamp, temperature:  $24 \pm 0.5^\circ\text{C}$ ); 2) height of the stems (coleoptiles) after 7 days; 3) faculty of the root cells to divide (mytotic activity). Table 1 gives data on the germinating power  
Card 1/4 ✓

Effect of radiation grafting...

S/190/61/003/008/018/019  
B110/B215

which show the specific protective effect of a 5% VP solution. The same protective effect of the solution was found with respect to the growth of coleoptiles. The optimum effect was attained after a 4 hr treatment with a 5 % aqueous VP solution. Grafting had a protective effect on the mytotic activity of the root cells.

Radiation dose in kr	Medium	Number of dividing cells	mytotic activity in %
0	H <sub>2</sub> O	305	10.1
	5 % VP solution	307	10.2
20	H <sub>2</sub> O	250	8.3
	5 % VP solution	300	10.0
50	H <sub>2</sub> O	102	3.4
	5 % VP solution	218	7.2



S/190/61/003/008/018/019  
B110/B215

Effect of radiation grafting...

The protective effect is explained by the grafting of PVP on irradiated wheat seeds. Processes disturbing the natural growth of the plants are thus weakened or eliminated. There are 3 figures, 2 tables, and 12 references: 11 Soviet and 1 non-Soviet.

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

SUBMITTED: January 17, 1961

Степень жизнеспособности облученных семян пшеницы при посредующей их обработке водными растворами ВП в течение 4 час. (в %)

① Доза об- лучения, кренгль- мм	② Концентрация ВП в растворе. %							
	0	0,5	1,0	2,0	5,0	10,0	50,0	100,0
0	90	89	90	88	89	70	0	20
10	80	78	84	85	87	52	0	15
20	75	77	75	80	86	40	0	12
40	57	56	59	65	70	25	0	5
50	50	52	49	53	65	20	0	5
100	42	40	40	45	60	15	0	2

Card 3/4

TARUSOV, B.N.; POLIVODA, A.I.; ZHURAVLEV, A.I.

Study of extremely weak spontaneous luminescence in animal cells.  
Biofizika 6 no.4:490-492 '61. (MIRA 14:7)  
(PHOSPHORESCENCE)

TARUSOV, B.N.; KOZLOV, Yu.F.

Grafting polymers in irradiated wheat seeds. Dokl. AN SSSR 140  
no.3:709-712 S '61. (MIRA 14:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
Predstavleno akademikom V.A.Karginym.  
(Polymerization, Effect of radiation on) (Seeds)



PHASE I BOOK EXPLOITATION

SOV/6315

Tarusov, Boris Nikolayevich

Pervichnyye protsessy luchevogo porazheniya (Initial Processes of Radiation Injury). Moskva, Gosatomizdat USSR, 1962. 96 p.  
6500 copies printed.

Ed.: A. V. Matveyeva; Tech. Ed.: Ye. I. Mazel'

PURPOSE: This book is intended for radiobiologists and physicians.

COVERAGE: The book discusses the initial processes of radiation injury and explores the possibility of decreasing the radiosensitivity of the organism by reducing the partial oxygen pressure during exposure and by administering certain drugs immediately before exposure to low density radiation. Results of investigations of the biochemical changes taking place in radiation injury are also reviewed. There are about 180 references, approximately half of which are Soviet.

Card 1/1

KOL'S, Ol'ga Romanovna; LIMARENKO, Iya Mikhaylovna. Prinsipal uchastiye  
AGRE, A.L.; TARUSOV, B.N., prof., red.; CHERKASOVA, V.I., red.  
izd-va; YEZHOVA, L.L., tekhn. red.

[Practical work in general biophysics in eight issues]Praktikum  
po obshchei biofizike v vos'mi vypuskakh. Pod obshchei red.  
B.N.Tarusova. Moskva, Gos. izd-vo "Vysshaia shkola." No.6. [Work  
with radioactive isotopes]Rabota s radioaktivnymi izotopami.  
1962. 202 p. (MIRA 15:10)

(Radiobiology)

TARUSOV, B.N.

(c)  
Radical Formation by Irradiation in Living Cells

V. N. Benerolenskiy, A. I. Shuravlev, A. A. Mikhaylova,  
B. N. Tarusov and B. V. Leonov

MIKHAYLOVA

5

The amount of free radicals in organs of rats and in cells cultured *in vitro* during and after irradiation has been studied.

Radicals were determined using the method Koslov-Tarusov. Intracellular polymerisation was measured by the use of low toxicity water-soluble monomers of the polyvinyl and acrylo nitrate groups. The monomers were introduced into cells at different intervals before and after irradiation. In addition, peroxide radicals in living cells

were determined for very low intensity radiations (Shuravlev). Both methods have some advantage over the paramagnetic resonance method since living cells are used.

It was shown that the radiation-induced free radicals in living cells are either oxidative or non-oxidative, and that radical formation continues after irradiation. The ratio of oxidative to non-oxidative radicals is reduced with increasing ionisation density.

The kinetics of radical formation in living cells were studied as a function of dose and time.

Scientific Association of Radiologists, Academy of Sciences of the USSR, Moscow

report presented at the 2nd Intl. Congress of Radiation Research,  
Harrogate/Yorkshire, Gt. Brit. 5-11 Aug 1962

TARUSOV, B. N.

(b)  
Radical Determination by Polymer Grafting in Irradiated Cells

Yu. P. Kravov and B. N. Tarusov

A new method has been developed for the determination of active radiation induced radicals by the polymerization of monomers introduced into the cell. The non-toxic water soluble monomers of the vinyl series were used for this purpose. Plant cells were used for the study of conditions for the penetration of monomer molecules into cells, as well as for their maximum concentrations which did not impair the activity of the biological objects.

It was established that, when radicals are present in cells, polymerization of the monomers takes place and the formed polymers are firmly grafted on to cell structures. The polymerization was determined by the micro-balance method. A comparison with the electron paramagnetic resonance method was carried out. It was shown that the method presents advantages since (a) it permits a measure of the number of active radicals in living, undamaged cellular structures; (b) it determines, not the stationary concentration of the radicals but their integral number for definite periods of time, and thus allows measurements at low radiation doses; (c) the sensitivity of the method is completely sufficient for carrying out determinations at conventional doses.

Lomonosov Moscow State University, USSR

report presented at the 2nd Intl. Congress of Radiation Research,  
Harrogate/Yorkshire, Gt. Brit. 3-11 Aug 1962

ZHURAVLEV, A.I.; TARUSOV, B.N.

Mechanism of the protective antioxidative action of some sulfur-containing compounds. Radiobiologia 2 no.2:177-180 '62. (MIRA 15:4)

(ANTIOXIDANTS)

(SULFUR COMPOUNDS)

TARUSOV, B.N.; POLIVODA, A.I.; ZHURAVLEV, A.I.; SEKAMOVA, Ye.N.

Ultraweak spontaneous luminescence in animal tissues. Tsitologiya 4 no.6:696-699 N-D'62 (MIRA 17:3)

1. Akademiya meditsinskikh nauk SSSR, Moskva.

MKRTCHYAN, R.G.; TARUSOV, B.N.

Antiproteolytic factor of the blood plasma of animals and its  
changes due to radiation injury. Dokl. AN SSSR 142 no.2:462-  
464 Ja '62. (MIRA 15:2)

(BLOOD PLASMA)

(PROTEINS)

(GAMMA RAYS--PHYSIOLOGICAL EFFECT)

TARUSOV, B.N., *otv. red.*; SKOKOVA, N.N., *red.*

[Bioluminescence; a symposium of June 3-6, 1963;  
abstracts of reports] Bioluminesstentsiia; simpozium  
3-6 iunia 1963 g.; teziy dokladov. Moskva, 1963. 27 p.  
(MIRA 17:9)

1. Moskovskoye obshchestvo ispytateley prirody. Sektsiya  
biofiziki. 2. Moskovskiy gosudarstvennyy universitet (for  
Tarusov).



ACCESSION NR: AT4006639

S/3039/63/000/000/0234/0242

AUTHOR: Tarusov, B. N.

TITLE: Kinetic regularities of primary reactions and chemical protection.

SOURCE: Pervichny\*ye i nachal'ny\*ye protsessy\* biologicheskogo deystviya radiatsii. Moscow, 1963, 234-242

TOPIC TAGS: radioprotector, chemical radioprotector, ionizing radiation, yeast cell, yeast, Saccharomyces vini, irradiated yeast cell, yeast radiosensitivity, lipid peroxide, autolytic process, cysteine, Beta mercaptoethylamine

ABSTRACT: In a review of previously published work, primarily by the author and his colleagues, it is pointed out that the phenomena of radiation damage and chemical radio-protection show two principal kinetic characteristics which give valuable insight into the nature of the primary processes in radiation injury. The first of these is the "oxygen effect", the fact that radiosensitivity increases with the oxygen pressure after the latter reaches a certain threshold level. However, the kinetics of this effect resemble those of the branched-chain oxidation of lipids rather than those of the radiolysis of water. Studies on Saccharomyces vini, irradiated at oxygen pressures of 0-11 atmospheres, showed that for this organism, for which oxygen is not toxic, an increase in the oxygen pressure also

Card 1/3

**ACCESSION NR: AT400639**

has a protective effect. Furthermore, the diploid strain, which is much less sensitive to radiation, is not protected as well by oxygen in aqueous suspension as the haploid strain, although their responses are equal when grown on agar. This, and studies on the formation of lipid peroxides in the livers of irradiated rats, an effect which is confirmed by the appearance of luminescence quenched by cysteine and other radioprotectants, indicates that the initial reaction in radiation poisoning is the destruction of the anti-oxidants; a 5-10% decrease in these antioxidants is sufficient to produce an autocatalytic formation of lipid peroxides. The second important characteristic is the fact that the oxygen effect and the protective effect of chemical agents decrease and disappear when the ionization density is increased. A quantitative study of the effect of antioxidants on both irradiated yeast and mice showed that the chemical agents were never as effective in preventing radiation damage. It is therefore concluded that there are two competing processes in radiation poisoning: an oxidative process and a non-oxidative process, such as the splitting of carboxypeptidase or nucleic acids, which is not affected by protective agents. In fact, protective agents may have a negative effect under certain circumstances because of their stimulatory effect on autolysis. The presentation is followed by a general discussion. Orig. art. has: 6 figures.

**ASSOCIATION: Biologicheskiy fakul'tet, Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova, Moscow (Department of Biology, Moscow State University)**

**Card 2/3**

**ACCESSION NR: AT4006039**

**SUBMITTED: 00**

**DATE ACQ: 20Dec68**

**ENCL: 00**

**SUB CODE: LS**

**NO REF SOV: 011**

**OTHER: 002**

3/3

Card

TARUSOV, B.N.

Introductory remarks. Trudy MOIP. Otd. biol. 7:7-8 163.  
(MIRA 16:11)

TARISOV, B.N.

Kinetics of the primary oxidation reactions of radiation injury.  
Trudy MOIP. Otd. biol. 7:68-72 '63.

TARUSOV, B.N.

Closing remarks. Trudy MOIP. Otd. biol. 7:220-221 '63.  
(MIRA 16:11)

POPOV, G.A.; TARUSOV, B.N.

Nature of the spontaneous luminescence of animal tissues.  
Biofizika 8 no.3:317-320 '63.

(MIRA 17:11)

**GASANOV, R.A.; MAMEDOV, T.G.; TARUSOV, B.N.**

Spontaneous and induced bioluminescence of plants under aerobic and anaerobic conditions. Dokl. AN SSSR 150 no.4: 913-915 Je '63. (MIRA 16:6)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.  
Predstavleno akademikom A.N. Belozerskim.  
(Plant cells and tissues)  
(Bioluminescence)



GASANOV, R.A.; MAMEDOV, T.G.; TARUSOV, B.N.

Interrelationship between the extremely weak chemiluminescence and heat resistance of vegetable organisms. Dokl. AN SSSR 153 no.4:947-949 D :63. (MIRA 17:1)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.  
Predstavleno akademikom A.N. Belozerskim.

RYMENKO, V. G. TARUSOV, B. N.

Cathode luminescence of normal and cancerous cells. Biofizika  
9 no. 1:134-135 '64.  
(MLGA 17:7)

POPOV, G.A.; TARUSOV, E.N.

Kinetics of chemiluminescence during decomposition of hydrogen peroxide with water-salt animal liver extracts. Biofizika 9 no.4:528-529 '64. (MIRA 18:3)

AGAVERDIYEV, A.Sh.; TARUSOV, B.N.

Extremely weak chemiluminescence of wheat stalks as related to temperature.  
Biofizika 10 no.2:351-352 '65. (MIRA 18:7)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta  
imeni Lomonosova.

TAMM, B.M.

Opening address. Trudy MOIF. Otd. biol. 21:7 '65.

Concluding remarks. Ibid.:206-210

(MIRA 18:6)

GASANOV, R.A.; MAMEDOV, T.G.; TARUSOV, B.N.

Spontaneous and induced ultraweak luminescence of plant organisms.  
Trudy MOIP. Otd. biol. 21:64-68 '65. (MIRA 18:6)

AVAKYAN, TS.M.; TARUSOV, B.N.; ADZHYAN, S.N.

"Oxygen effect" of bioluminescence. Trudy MOIF. Otd. biol.  
21:60-63 '65. (MIRA 18:6)

KLIPSON, N.A.; MAMEDOV, T.G.; TARUSOV, B.N.

Luminescence method for studying free radical states. Trudy  
MOIP. Otd. biol. 21:107-111 '65. (MIRA 19:6)



TARUSOV, B.N.; ZHURAVLEV, A.I.

Biochemiluminescence of lipids. Trudy MOIP. Otd. Biol.  
21:125-132 '65. (MIRA 18:6)

TARUSOV, B.N.; KOZLOV, Yu.P.; URTILE, S.; CHZHOU YUN-TSZEN [Chou Yung-tseng]

Free radical processes in irradiated homogenates of animals tissues.  
Dokl. AN SSSR 163 no.3:752-753 J1 '65. (MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet. Submitted November 25,  
1964.

TARUSOV, B.N.

Biophysics and its objectives. Nauch.dokl.vys.shkoly; biol.nauki  
no.4:7-13 '65. (MIRA 18:10)

AGAVERDIYEV, A.Sh.; DOSKOCH, Ya.Ye.; TARUSOV, B.N.

Effect of low temperatures on the extremely weak luminescence of plants. *Biofizika* 10 no.5:832-836 '65.

(MIRA 18:10)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni M.V.Lomonosova.

L 1620-66

ACCESSION NR: AP5020836

UR/0020/65/163/004/0991/0993

AUTHOR: Agaverdiyev, A. Sh.; Doskoch, Ya. Ye.; Tarusov, B. N.

5/8

TITLE: Ultra-weak emission of plants with temperature reduction

SOURCE: AN SSSR. Doklady, v. 163, no. 4, 1965, 991-993

TOPIC TAGS: plant physiology, biophysics, low temperature effect, light emission, luminescence, anoxia, free radical

ABSTRACT: Emission intensity changes of plants at low temperatures were studied to obtain data on oxidative processes. Four day old wheat and barley sprouts of 50 different varieties were investigated in a thermostat at a temperature range of 20 to -10 C, and photoemission was measured by an end-window photomultiplier. Additional experiments were conducted to determine the effects of anoxia, nitrogen, and propylgallate on emission intensity. Findings show that emission intensity decreased with temperature reduction. Luminescence was recorded with temperatures reduced as low as 6 to 7 C for thermophylic varieties, and with temperatures reduced as low as 0°C for the more cold resistant varieties. With further reduction in  
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L 1620-66

ACCESSION NR: AP5020836

temperature, emission flared up and established a new low temperature maximum. Then, when the temperature was raised, emission intensity increased more rapidly, probably due to low temperature destruction of the inhibitor mechanism. The position of the low temperature maximum of a given plant variety was related to its frost resistance. Luminescence ceased in plants subjected to anoxia, and no low temperature emission flare-up was observed until oxygen was admitted to the system. Propylgallate, a free radical inhibitor, reduced the intensity of the flare-up and shifted it to a lower temperature by about 2°. Ultra-weak emission appears to be a chemoluminescent process which accompanies the oxidation of structural lipids. This free radical oxidation is maintained at a low level by bioantioxidants. However, at certain critical points, the antioxidant equilibrium is disturbed. Then, when the temperature is raised, the expenditure of antioxidants exceeds their return flow and oxidative processes develop autocatalytically. Thus, the flare-up of ultra-weak emission appears to be caused by sharp increase in antioxidant consumption. Orig. art. has: 3 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet. im. M. V.

Card 2/3

L 1620-66

ACCESSION NR: AP5020836

Lomonosova (Moscow State University)

SUBMITTED: 15Apr65

ENCL: 00

SUB CODE: LS

NR REF SOV: 004

OTHER: 000

Card 3/3

98

VESELOVSKIY, V.A.; TARUSOV, B.N.

Effect of  $\gamma$ -rays  $Co^{60}$  on the extremely weak luminescence of  
the root system of barley seedlings. Vest.Mosk.un.Ser.6: Biol.,  
pochv. 20 no.4:65-68 J1-Ag '65. (MIRA 18:12)

1. Kafedra biofiziki Moskovskogo universiteta. Submitted July  
24, 1964.



ORLOV, V.N.; ORLOV, O. Y'.; PANOV, Ye.N.; CHAYKOVSKIY, Yu.V.; YABLOKOV, A.V.;  
GONCHARENKO, Ye.N.; GORBUNOVA, V.G.; KONOPLYANNIKOV, A.K.;  
KUDRYASHOV, Yu.B.; REUK, V.D.; SHUENIKOVA, Ye.A.; TARUSOV, B.N.;  
PETRUSEVICH, Yu.M.; IVANOV, I.I.; GAPONENKO, V.I.; ANTONOV, V.A.;  
VOROB'YEV, L.N.; BURLAKOVA, Ye.V.; BURDIN, K.S.; PARKHOMENKO, I.M.;  
AGAVERDIYEV, A. Sh.; DOSKACH, Ya. Ye.; TARUSOV, B.N.

Brief news. Biol. MOIP. Otd. biol. 70 no.6:158-171 N-D '65.  
(MIRA 19:1)

8361735020014-6  
20, 2002 CIA-RDP86-00513R001755020014-6  
S/026/60/000/03/006/047  
D001/D006

21(3)  
17(

AUTHOR: Tarusov, D.N., Professor (Moscow)  
TITLE: Ionizing Radiation and the Human Organism.  
Seeking a Means of Protection Against Radiation 77  
Sickness

PERIODICAL: Priroda, 1960, Nr 3, pp 33-38 (USSR)

ABSTRACT: This is a popular description of how radiation affects the organism and a summary of prophylactic countermeasures against radiation sickness. The author outlines N.N. Semenov's well-known theory on the chain reactions created by active chemical products which form during exposure to radiation. The development of chemically active radicals (observable in amino-acids and albumens by the paramagnetic method) [Ref 2] is also described. Discussing the radiation-


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SR001755020014-6  
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of Protection Against Radiation Sickness**

protection afforded by cystein, etc., the author notes the value of the beta-mercaptoethylamine preparation suggested by Z.M. Bacq. The condition of anoxia is described with mention of the research-results of Gray and Peterson (England). Discussing Bacq's hypothesis on the action of prophylactic materials, the author points out that it neglects the fact that the substances from which cells are formed are also amenable to radiation. The cells then develop active organic radicals and superoxides. Experiments showed an 80 times increase in superoxides of biolipids during irradiation than during equivalent conditions in water. Research on the lipids in animal tissues and other fats shows that the correlation between the ability



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of compounds to brake oxidation chain reactions and their ability to produce a prophylactic effect are more complete than in models where water radicals play a special role. The article ends with a note on the urgency of finding a compound capable of braking the chain reactions of radiation sickness. There are 2 graphs and 6 references, of which 1 is English and 5 Soviet.

Card 3/3

TARUSOV, G.V.

Experience of working on heat fastening of joints on drill pipes  
in the enterprises of the State Association of the Azerbaijan  
Petroleum Industry. Neft. khoz. 39 no.7:60-63 J1 '61.  
(MIRA 14:6)

(Oil well drilling—Equipment and supplies)  
(Pipe joints)

TARUSOV, Vladimir Leonidovich; CHERNYAK, R.I., red.; POPOV, V.N.,  
tekhn. red.

[Our experience with visual propaganda] Nash opyt nagliadnoi  
agitatsii] Nash opyt nagliadnoi agitatsii. Tambov, Tambovskoe  
knizhnoe izd-vo, 1961. 27 p. (MIRA 16:3)

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skoy partii Sovetskogo Soyuza (for Tarusov).  
(Muchkap District--Agriculture--Audio-visual aids)

VESELOVSKIY, V.A.; SHKAMOVA, Ye.N.; TALISOV, V.N.

Mechanism of superweak spontaneous luminescence of organisms.  
Biofizika 8 no.1:125-127 '63. (MIRA 17:8)

TARUSOVA, N.B.; VETROV, A.N.; PREOBRAZHENSKIY, N.A.

Synthetic study of flavonoids. Part 5: Synthesis of eriodictyol-  
7-glycoside and its methyl ether. Zhur. ob. khim. 34 no.10:3300-  
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1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni  
M.V. Lomonosova.



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2. USSR (600)
4. Automobile Engineering
7. "Theory of Automobile Suspension" R. V. Etenberg. Reviewed by A. A. Tarutin  
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APPROVED FOR RELEASE: Thursday, September 26, 2002    CIA-RDP86-00513R001755020014-6  
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~~TARUTIN, A.A.~~, starshiy nauchnyy sotrudnik; POPOVA, S.M., tekhnicheskii redaktor.

Increasing the fatigue strength of plate springs by the plastic cambering method. Trudy NAMI no.68:3-25 '53. (MLRA 8:3)  
(Springs (Mechanism))

TARUTIN, A. A.

## USSR/Miscellaneous - Books

Card 1/1 # Pub. 12 - 11/12

Authors # Korotonoshko, N. I.; Kulikov, N. K.; Khanin, N. S.; Tarutin, A. A.;  
and Rutenberg, G. M.

Title # Critique and bibliography

Periodical # Avt. trakt. prom. 4, 31-33, Apr 1954

Abstract # Critical review of reports written by different authors, dealing in  
automotive and metallurgical technology.

Institution : Scientific Research Institute of Machine Construction

Submitted : .....