"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

88260

S/076/60/034/012/015/027
B020/B067

5.4700

AUTHORS: Geyderikh, V. A., Vecher, A. A., and Gerasimov, Ya. I.

TITLE: Study of the Thermodynamic Properties of Binary Metal Systems by the Method of Electromotive Force. VI. The System Iron - Antimony in Solid State

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 12, pp. 2789-2794

TEXT: In publications usually the phase diagram for the system iron - antimony which is constructed from data of N. S. Kurnakov and B. P. Konstantinov [Abstracter's note: in the list of publications the name is spelled N. S. Konstantinov] (Ref. 1) is described. For temperatures below 620°C the phase diagram contains the following phases: 1) α-solid solution of antimony in iron; the limits of existence of the α-phase have not been accurately determined; 2) heterogeneous range (α- + ε -phases) with 3 to 42 atom% Sb; 3) ε -phase (42-48 atom% Sb), which in the following is referred to as $Fe_{0.52}Sb_{0.48}$; 4) heterogeneous range (ε-phase + $FeSb_2$)

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88260

Study of the Thermodynamic Properties of Binary Metal Systems by the Method of Electromotive Force. VI. The System Iron - Antimony in Solid State

S/076/60/034/012/015/027
B020/B067

with 48 to 66.7 atom% Sb, and 5) heterogeneous range ($FeSb_2$ + Sb) with 66.7 to 100 atom% Sb. The authors studied the thermodynamic functions of the reaction taking place in the cell

$$Fe(sol) \mid Fe^{2+} \text{ in melt } KCl + LiCl \mid [Fe - Sb] \text{ sol.alloy} \quad (1)$$

which is based on the transfer of iron from the reference electrolyte (pure iron) to the electrode (iron-antimony alloy). When studying the temperature dependence of emf also the changes of the partial molar entropy and the heat content of the process can be determined. The measurements were made at temperatures of from 400 to 600°C for the alloys of the region $FeSb_2$ + Sb and at 500 to 700° for the alloys of the other regions of the phase diagram. The emf was measured by means of a potentiometer ППТВ-1 (PPTV-1) with a mirror galvanometer М-25-5 (M-25-5); the temperature was determined by a Pt -PtRh thermocouple with an accuracy of ± 1°C. A special thermostat kept the temperature constant at 1-2°C. Each experiment lasted 100 to 120, sometimes even 200 hours. The dependence of

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00260

Study of the Thermodynamic Properties of Binary Metal Systems by the Method of Electromotive Force. VI. The System Iron - Antimony in Solid State

S/076/60/034/012/015/027
B020/B067

the partial and integral changes of the isobaric - isothermal potentials in the system Fe - Sb at 830°K are given in Figs. 2-4. The values ΔZ (integral change of the thermodynamic potential in the formation of 1 g atom of alloy from Fe and Sb), ΔS and ΔH of the formation of iron antimonides from Fe and Sb are given in Table 1. When determining the accuracy of the data obtained the authors used the maximum deviation of the experimentally obtained points from the calculated values without considering the strongly diverging results. The values of these deviations for all regions of the phase diagram are given in Table 2. N. V. Ageyev, Ye. S. Makarov, and K. Vagner are mentioned. There are 4 figures, 2 tables, and 14 references: 7 Soviet, 3 US, 1 French, and 3 German.

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

SUBMITTED: March 28, 1959

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APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.A.; GERASIMOV, Ya.I.

Thermodynamic properties of copper-palladium alloys. Dokl.AN SSSR 123 no.5:868-869 D '58. (MIRA 12:1)

1. Chlen-korrespondent AN SSSR (for Gerasimov). 2. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(Copper-palladium alloys)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

18(6), 5(4) SOV/156-59-1-4/54

AUTHORS: Vecher, A. A., Gerasimov, Ya. I.

TITLE: The Construction of a Part of the Liquidus Curve of the System Copper - Antimony According to Thermodynamic Data (Postroyeniye chasti krivoy likvidusa sistemy med' - sur'ma po termodinamicheskim dannym)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 16 - 18 (USSR)

ABSTRACT: The thermodynamic data used are not listed here but are given in two previous publications by the authors (Ref 1, Ref 2). The liquidus curve between 0 and 40 wt% of copper and the position of the maximum between 50 and 60 wt% of copper are given a close investigation. For calculating the curve, the dependence $\lg a_{Sb}$ on $\frac{1}{T}$ per 0.05 atomic yields of antimony between 0.95 - 0.60 Sb in the temperature range 800 - 1000°K is calculated (Table 1). The values found are in agreement with data obtained by other authors (Diagram, Fig 2). The curve between the eutectic point and the peritectic point of Cu_2Sb formation is similarly calculated from

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

The Construction of a Part of the Liquidus Curve of the System Copper - Antimony According to Thermodynamic Data SOV/156-59-1-1/54

the condition $2 \lg a_{Cu(alloy)} + \lg a_{Sb(alloy)} = \frac{\Delta Z_{Cu_2Sb}}{4.575\ T}$ at 800 and 850°K (the data for this calculation are given in reference 2). The temperature dependence of the electromotive force of the galvanic cell $Cu_{solid} | Cu^+$ (in KCl - + LiCl- + CuCl melt) $| Cu\text{-}Sb_{liquid\ alloy}$ shows that the maximum of the liquidus curve is near the compound Cu_5Sb_2 and not, as has been presumed by other authors, near Cu_5Sb. The phase diagram of the system Cu-Sb is shown. There are 3 figures, 2 tables, and 6 references, 5 of which are Soviet.

ASSOCIATION: Kafedra fizicheskoy khimii Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Chair of Physical Chemistry of Moscow State University imeni M. V. Lomonosov)

SUBMITTED: June 30, 1958

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.A.; NIKOL'SKAYA, A.V.; GERASIMOV, Ya.I.

Studying the thermodynamic properties of binary metallic systems by the electromotive force method. Part 3: The copper-antimony system (with summary in English). Zhur. fiz. khim. 31 no.6:1395-1400 Je '57. (MIRA 10:12)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Thermochemistry) (Copper) (Antimony)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

5(4)

AUTHORS: Gerasimov, Ya. I., Corresponding Member, Academy of Sciences, USSR, Vecher, A.A., Geyderikh, V. A.

SOV/20-122-5-24/56

TITLE: The Thermodynamic Properties of the Solid Solutions Cu-Ni and Fe-Co (Termodinamicheskiye svoystva tverdykh rastvorov Cu-Ni i Fe-Co)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 5, pp 834 - 836 (USSR)

ABSTRACT: The authors determined the free energy, the heat of formation, and the entropy of formation of the alloys Cu-Ni and also the activity of iron in the alloys Fe-Co by the method of electromotive forces. The electromotive force of the alloys Cu-Ni was measured in a galvanic element: Cu(solid)| Cu^+ (melt)CuJ+KJ+NaJ)| Cu-Ni(alloy). The alloys were produced from nickel- and zinc powder by pressing and subsequent annealing(for a duration of up to 100 hours at 1050-1250°C) and were analyzed after the smelting test. The results obtained by these experiments are shown by a diagram. The electromotive

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force was perfectly constant and reproducible within a limit of errors of 1,5 to 2%. From the electromotive force and its temperature dependence the activity (a_{cu}), the partial relative heat content L_{Cu} and the partial entropy of the mixture of the copper ($\Delta \overline{S}_{Cu}$) were determined for each of the alloys. By means of graphical integration the integral heat and entropy of formation of this system were then found. Formulae are given for the approximated description of the experimental results obtained. The system Cu-Ni forms a continuous series of solid solutions. According to the data given by the authors, the system Cu-Ni furnishes positive deviations from Raoult's (Raul') law, which, however, are less than those for the system Au-Fe and Au-Ni. However, the excess entropy of the mixture (izbytochnaya entropiya smesheniya) of the alloys Cu-Ni are negative. No ordered distribution of atoms in the alloys Cu-Ni could be ascertained by radiographic

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investigations because the difference with respect to diffrangibility between the copper- and nickel atoms is too small. However, measurements of the electric resistance and the magnetic properties of the copper-nickel alloys indicate the existence of a certain order in them. This ordered state is probably connected with the self-action of the free electrons (valence electrons) of copper and nickel. An ordered state in Cu-Ni-alloys is, according to the authors' opinion, quite possible. The ordered state of the Cu-Ni-alloys exercises considerable influence upon the values of the excess entropy of formation. The highly negative values of the excess entropy (if calculated from relatively low positive heats of formation) give positive excess free energies. The electromotive force increases more rapidly than linearly with increasing temperature. Herefrom it follows 1) that with increasing temperature the positive deviations from Raoult's (Raul') law rapidly decrease, and 2) the heat

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and the entropy of formation of copper-zinc alloys depends on temperature. Further investigations of the structure of copper-zinc alloys appear to be necessary. The values of the activity of iron in Fe-Co"-Le-alloys found by the authors are shown by a diagram and agree well with the results obtained by T.Satov et al.(Ref 11). There are 4 figures and 11 references, 4 of which are Soviet.

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

SUBMITTED: July 1, 1958

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

5(4)

AUTHORS: Vecher, A. A., Gerasimov, Ya. I. SOV/76-32-12-27/32

TITLE: Investigation of the Thermodynamic Properties of Binary Metal Systems by Means of the Method of Electromotive Forces (Issledovaniye termodinamicheskikh svoystv dvoynykh metallicheskikh sistem metodom elektrodvizhushchikh sil) IV. The Copper-Antimony System in Solid State (IV. Sistema med'-sur'ma v tverdom sostoyanii)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 12, pp 2835-2840 (USSR)

ABSTRACT: Measurements were carried out on copper-antimony and pure-copper electrodes in a fusion of potassium chloride and lithium chloride containing some copper-I-chloride. From the values obtained the equations for the dependence of the electromotive force (EMF) upon the temperature were developed. The values calculated show a maximum deviation of 1% from the measured ones. Entropies for copper, antimony, and the compounds Cu_2Sb and Cu_3Sb at a temperature of 775°K were then calculated. These entropy values deviate somewhat from the test results, which may be due to the method of approximation and the influence of

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

Investigation of the Thermodynamic Properties of Binary Metal Systems by Means of the Method of Electromotive Forces. IV. The Copper-Antimony System in Solid State SOV/76-32-12-27/32

other factors which were not considered. The positive entropies in the formation of copper-antimony alloys can be explained by changes of the atomic vibrations in the Cu_2Sb and Cu_3Sb lattices.

The system Cu-Sb is characterized by negative heat coefficients and negative isobaric potentials. This might be explained by the appearance of intermediate compounds. The coefficients calculated for the compound Cu_2Sb are:

$$\Delta H_{775} = -1.1 \pm 0.2 \text{ kcal/g.at.}$$
$$\Delta Z_{775} = -1.81 \pm 0.02 \text{ kcal/g.at.}$$
$$\Delta S_{775} = +1.0 \pm 0.25 \text{ cal/grad.g.at.}$$

There are 2 figures, 4 tables, and 11 references, 7 of which are Soviet.

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

SUBMITTED: March 3, 1957

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APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

GEYDERIKH, V.A. ; VECHER, A.A.; GERASIMOV, Ya.I. (Moscow)

E.m.f. study of the thermodynamic properties of binary metallic systems. Part 6: The system iron - antimony in the solid state. Zhur. fiz. khim. 34 no.12:2789-2794 D '60. (MIRA 14:1)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova. (Iron-antimony alloys)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

SOV/20-120-6-30/59

AUTHORS: Geyderikh, V. A., Gerasimov, Ya. I., Corresponding Member, Academy of Sciences, USSR, Yecher, A.

TITLE: Thermodynamics of the Production of the Highest Iron Antimonide (Termodinamika obrazovaniya vysshego antimonida zheleza)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 120, Nr 6, pp. 1274 - 1276 (USSR)

ABSTRACT: This is an investigation of the production of $FeSb_2$ from the elements according to the reaction Fe(solid)+2Sb(solid)=$FeSb_2$ by means of the e.m.f.method. This was done by investigating the dependence of the e.m.f.of the cell Fe| Fe^{2+}, KCl+LiCl (solution)|$FeSb_2$+Sb upon temperature in the interval 410 - 610°. 12 melts with a varying composition (within the heterogeneous range $FeSb_2$+Sb of the phase diagram of the Fe-Sb system) were investigated. The experimental methods have been described already earlier. The results of all experiments were interpreted by means of the method of least squares. The equation E= 0,1497 - 0,00004 T (in Volts) was found for the function

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

Thermodynamics of the Production of the Highest Iron Antimonide SOV/20-120-6-30/59

E=f(T). By means of this equation it is possible to compute the variations of the isobaric-isothermal potential, of enthalpy and of entropy in the production of $FeSb_2$ by means of this reaction: $\Delta Z=-nFE=-6,9+0,0018T$ (kcal/mol), $\Delta H=-6,9\pm 0,4$ (kcal/mol)$=-2,30\pm 0,1$ (kcal/gram atom), $\Delta S=-1,8\pm 0,4$ (kcal/degree.mol)$=0,6\pm 0,1$ (kcal/degree.gram atom). Differences between these results and that obtained by other authors and the possible causes for this fact are mentioned. Finally the theoretical calculation of ΔZ by means of the equation for the liquidus range of the meltability diagram of the Fe-Sb system is presented. The agreement attained is satisfactory. There are 1 figure and 8 references, 6 of which are Soviet.

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

SUBMITTED: March 1, 1958

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

Thermodynamics of the Production of the Highest Iron Antimonide SOV/20-120-6-30/59

1. Antimony-iron systems--Production 2. Antimony-iron systems--Thermodynamic properties 3. Antimony-iron systems--Enetropy 4. Antimony-iron systems --Enthalpy 5. Mathematics--Applications

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A. A.: Master Chem Sci (diss) -- "Investigation of the thermodynamic properties of certain binary metallic systems, using the method of electromotive forces". Krasnodar, 1958. 17 pp (Moscow State U, Chem Faculty, Chair of Phys Chem), 150 copies (KL, No 7, 1959, 122)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.A.; GERASIMOV, Ya.I.

Investigation of the thermodynamic properties of binary metallic systems bt means of an electromotive force. Part 4: System copper - antimony in solid state.[with summary in English]. Zhur.fiz.khim. 32 no.12:2835-2840 D '58. (MIRA 12:2)

1. Moskovskiy gosudarstvenny universitet imeni M.V. Lomonosova.
(Copper--Antimony alloys) (Electromotive force)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.A.; GERASIMOV, Ya.I.

Constructing the liquidus curve of the copper-antimony system from thermodynamic data. Nauch.dokl.vys.shkoly; khim.i khim.tekh. no.1:16-18 '59. (MIRA 12:5)

1. Predstavlena kafedroy fizicheskoy khimii Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(Copper--Antimony alloys)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A. A.; GERASIMOV, Ya. I.

Study of the thermodynamic properties of binary metallic systems by the elctromotive force method. Part 8. Zhur. fiz. khim. 37 no. 3:490-498 Mr '63. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

24(8), 18(6) SOV/20-123-5-27/50

AUTHORS: Vecher, ~~A. A.,~~ Gerasimov, Ya. I., Corresponding Member, Academy of Sciences, USSR

TITLE: The Thermodynamic Properties of the Alloys of Copper With Palladium (Termodinamicheskiye svoystva splavov medi s palladiyem)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 5, pp 868-869 (USSR)

ABSTRACT: The authors determined (by the method of electromotive forces) the free energy, the heat and the entropy of mixing of copper-palladium alloys. For this purpose, the electromotive force of the galvanic element Cu/Cu^{+}(halide solution)/ Cu-Pd (alloy) was measured. The method of these measurements was described in a previous paper (Ref 1). Melts of potassium chloride and lithium chloride of eutectic composition and also of sodium iodide and potassium iodide of minimum melting temperature ($\sim 590^{\circ}C$) were used as electrolytes. In the first case, $\sim 1\%$ CuCl was added to the electrolyte, in the second case - CuJ. In the majority of the experiments, melts of potassium iodide, sodium

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iodide, and copper iodide of the above-discussed composition were used. The preparing of the alloys is described in short. The experiments were carried out at temperatures of 600-760°C in an atmosphere of purified argon; they took 130-150 hours. The experimentally found values of the electromotive force for any composition were plotted against temperature, and a straight line was drawn through the experimentally found points. The deviations of the individual values of the electromotive force are not higher than ± 0.5 - 1%. The further evaluation of experimental data was described in a previous paper (Ref 2). The second figure shows the activity of copper and palladium in alloys at the temperature of 1000°K. The third figure gives the integral values of the heat, free energy and entropy of the formation of copper-palladium alloys at 1000°K. At temperatures above 600°, the investigated alloys were not ordered. A tendency towards ordering is distinctly marked, however, also at high temperatures. This conclusion may be drawn from the negative deviation of the thermodynamic functions from the ideal laws, from the strongly negative heat of mixing, and from other phenomena. The thermodynamic properties of the copper-palladium alloys at 1000°K (which

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

SOV/20-123-5-27/50

The Thermodynamic Properties of the Alloys of Copper With Palladium

were found by the authors) correspond to the existence of superstructures in these alloys at lower temperatures. There are 3 figures and 6 references, 3 of which are Soviet.

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

SUBMITTED: August 29, 1958

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L 16959-63 EWP(q)/EWT(m)/BDS AFFTC Pad JD/HW
S/076/63/037/004/0731/0739

AUTHOR: Vecher, A. A., Gerasimov, Ya. I. 60

TITLE: Investigation of the thermodynamic properties of binary metallic systems by the EMF method. IX. Solid copper-palladium solutions

PERIODICAL: Zhurnal fizicheskoy khimii, V. 37, No. 4, 1963, 739-745

TEXT: The thermodynamic properties of non-ordered solid copper-palladium solutions are investigated at 1,000 degrees K by the EMF method. The thermodynamic properties of alloys of copper and palladium agree with the presence of superstructures in these alloys at lower temperatures. The thermodynamic properties of these alloys are discussed in terms of Guggenheim's quasichemical theory, and an attempt is made to compare the electron exchange between the components of copper-palladium and copper-platinum alloys. There are 5 tables and 4 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov). Otdel fiziki tverdogo tela i poluprovodnikov AN BSSR (Department of Solid State Physics and the Physics of Semiconductors, Academy of Sciences Belorussian SSR).

SUBMITTED: September 1, 1963

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.A.; VECHER, R.A.; GEYLERIKH, V.A.; VASIL'YEVA, L.A.

Nature of conductance of the solid electrolyte 0,85 [illegible] 0,15 Ag_2O_3. Zhur. fiz. khim. 39 no.8:2080-2081 Ag '65. (MIRA 18:9)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

L 9734-66 EWT(1)/EWT(m)/ETC/EWG(m)/ETC(m) JD/JW
ACC NR: AP5027172 SOURCE CODE: UR/0076/65/039/010/2406/2409

AUTHOR: Vecher, A.A.

ORG: Institute of Solid State Physics and Semiconductors, Academy of Sciences, BSSR (Akademiya nauk BSSR, Institut fiziki tverdogo tela i poluprovodnikov)

TITLE: Thermodynamic properties of oxide systems. Part 1. Calculation of the thermodynamic properties of ferrite solid solutions from experimental data

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 10, 1965, 2406-2409

TOPIC TAGS: thermodynamic calculation, thermodynamic property, ferrite, solid solution, iron oxide, oxide

ABSTRACT: The aim of the study was to work out a minimum experimental program for a precise determination of the change in thermodynamic properties upon the formation of ferrite solid solutions from the components. This was done by studying the equilibrium of the reaction involved in the reduction of ferrite-magnetite solid solutions ($ZnFe_2O_4$-Fe_3O_4; $NiFe_2O_4$-Fe_3O_4; $MgFe_2O_4$-Fe_3O_4) by a water vapor-hydrogen mixture. It was found that when the reduction product is a phase of variable composition, the calculation of the thermodynamic properties requires the most accurate determination possible of the

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ACC NR: AP5027172

composition of this phase and its thermodynamic properties; i.e., experiments designed to determine the equilibrium constants of the reduction reactions of ferrite solid solutions should be supplemented with a thermodynamic study of the reduction products. A direct calculation of the activity of the ferrite in its solid solution with magnetite is impossible. Such a solution should be represented as a ternary solid solution of the form MeO-FeO-Fe_2O_3. Orig. art. has: 1 figure and 18 formulas.

SUB CODE: 20, 07 / SUBM DATE: 13Jun64 / ORIG REF: 007 / OTH REF: 001

Card 2/2

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VECHER, A.A.; GEYDERIKH, V.A.; GERASIMOV, Ya.I.

Study of the thermodynamic properties of binary alloys by the electromotive force method. Part 10. Zhur. fiz. khim. 39 no.9:2145-2149 S '65. (MIRA 18:10)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

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VAYNSHTEYN, G.I., kand.med.nauk; VECHER, A.M. (Moskva)

Clinical problems in internal fistulae of the biliary tract. Klin.med. 38 no.11:119-121 N '60. (MIRA 13:12)

1. Iz propedevticheskoy terapevticheskoy kliniki lechebnogo fakul'teta (zav. - deystvitel'nyy chlen AMN SSSR prof. V.Kh. Vasilenko) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova (dir. - chlen-korrespondent AMN SSSR prof. V.V. Kovanov).

(BILIARY TRACT--DISEASES) (FISTULA)

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KARAPETYAN, G.N.; VECHER, A.M. (Moskva)

Use of gastripon in gastrointestinal diseases. Klin.med. no.7: 56-58 '61. (MIRA 14:8)

1. Iz propedevticheskoy terapevticheskoy kliniki (dir. - deystvitel'nyy chlen AMN SSSR prof. V.Kh. Vasilenko) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.
(DIGESTIVE ORGANS--DISEASES) (ATROPINE)

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GORNAK, K.A.; SEROV, V.V.; RYABTSEV, V.G.; VECHER, A.M. (Moskva)

Lymphangioendothelioma of the thoracic duct. Arkh. pat. 25 no.3: 73-77 '63. (MIRA 17:12)

1. Iz kafedry patologicheskoy anatomii (zav. - chlen-korrespondent AMN SSSR prof. A.I. Strukov) propedevticheskoy terapevticheskoy kliniki (zav. - deystvitel'nyy chlen AMN SSSR prof. V.Kh. Vasilenko) i fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. N.N. Yelanskiy) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

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KARAPETYAN, G. N.; VECHER, A. M. (Moskva)

Treating diseases of the bile ducts and liver with oxaphenamide. Klin. med. no.6:103-105 '61. (MIRA 14:12)

1. Iz propedevticheskoy terapevticheskoy kliniki (dir. - deystvitel'nyy chlen AMN SSSR prof. V. Kh. Vasilenko) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I. M. Sechenova.

(CHOLAGOGUES) (LIVER--DISEASES)
(BILE DUCTS--DISEASES)

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MELIKOVA, M.Yu.; BADMAYEVA, V.V.; VECHER, A.M. (Moskva)

Hemocytoblastosis developing following radiotherapy of reticulosarcoma of the mediastinum. Arkh. pat. 27 no.5:64-67 '65. (MIRA 18:5)

1. Kafedra propedevtiki vnutrennikh bolezney (zav. - deystvitel'nyy chlen AMN SSSR prof. V.Kh.Vasilenko) i kafedra patologicheskoy anatomii (zav. - chlen-korrespondent AMN SSSR zasluzhennyy deyatel' nauki prof. A.I.Strukov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.

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PROCESSES AND PROPERTIES INDEX

11E

Preparation of carotene concentrates and carotene from carrots. A. S. Vecher. *Biokhimiya* 1, 567-78(1936).—The washed carrots are pulped and the pulp is pressed, affording 56% of juice. Citric (or other) acid is added to *p*H 4.0-4.5 and the sediment collected after 12 hrs. at 0-4°. The dry sediment contains more than 1% of carotene (I) and may be used as a basis for prepn. of pure I, or added, as a I concentrate, to foods. The clarified juice may be disposed of as a fermented or unfermented beverage. The residue after expression of juice contains about 50% of H_2O and about half of the initial I content of the carrots and may also be utilized for I production.

B. C. A.

Fruit + Vegetables Lab. of the inst. of food industry, USSR, MINSK

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PROCESSES AND PROPERTIES INDEX

1ST AND 2ND ORDERS

12

Variability in carotene content and chemical composition of carrots in storage. A. S. Vecher and S. V. Kalishevich. *Bull. Applied Botany, Genetics Plant Breeding* (U. S. S. R.), Suppl. 84, *Vitamin Problems* 2, 310–13(1937).—Toward the end of March the variety Valeria lost 46.8% and the varieties Nanta and Herand 28.6% of carotene when stored under the same conditions. J. S. J.

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CA

16

The content and preservation of vitamin C in fruit-berry wines. V. V. Lesnovskaya and A. S. Yesher. *Nauch.-Issledovatel. Inst. Pishchevoi Prom., Sbornik Moladykh Nauch. Rabotnikov* (Minsk) 1939, 35-47; *Khim. Referat. Zhur.* 1940, No. 6, 46.—Ascorbic acid was detd. in the initial material and after various steps in the tech. operations connected with the prepn. and treatment of must. In materials contg. oxidizing enzymes (apples, strawberries) most of the vitamin C is oxidized and decompd. in the initial stages of the production process. These enzymes must be inactivated to preserve the vitamin C content. Sweetbrier fruits (richest in vitamin C) contain no oxidizing enzymes. Wines produced from them ferment readily, are pleasant to taste and are high in vitamin C. Ascorbic acid is gradually oxidized during storing of wines, owing to the discontinuation of fermentation and losses of CO_2 during bottling. To preserve a higher content of vitamin C, wines should be bottled and filtered without access of air.

W. R. Henn

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

CA

17

Concentrates of carotene. A. S. Vecher. Russ. 56,350, Jan. 31, 1940. Carrot juice is acidified with an org. acid and the ppt. is filtered off and [illegible]

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

110

The chemical composition of apples. A. S. Vecher and V. N. Bukin. *Biokhim. Kul'tur. Rastenii* 7, 9-24 (1940) W. R. Henn

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

The effect of the geographical factor, of fertilizers, of irrigation and of other factors on the chemical compositions of apples. A. S. Vecher and V. N. Bukin. *Biokhim. Kul'tur. Rastenii* 7, 24-9(1940); cf. C. A. 35, 2024[8]. The total utilization of N, P and K by cultivated apple trees is considerable. Apples grown without irrigation contained more acids and sugars and considerably more insol. substances and less water than did the irrigated apples. Pruning the trees increases sucrose in the apples, and to a smaller degree glucose; fructose and acids remain unchanged. The av. increase of total sugars is from 9.71% to 10.65% and of the ratio sugar/acid from 19.81 to 21.71.

W. R. Henn

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PROCESSES AND PROPERTIES INDEX

110

The changes during ripening and storing of apples A. S. Vecher and V. N. Bukin. *Bsokhim. Kul'tur. Rastenii* 7, 29-43(1940).—The main changes taking place in apples during ripening and storing are decrease of moisture, acidity, dextrins, and substances hydrolyzed by acids and transformation of starch into sugar. A part of the pectin compds. and hemicellulose also change into sugar. This causes an increase of inverted sugar. The decrease of acidity is attributed to the dilu. of acids which were formed during the initial stages of growth. After disappearance of starch, total sugar decreases slowly and sucrose is inverted. In the skin the contents of ursolic acid, oily fraction and total ether ext. increase, from 68 to 75 and from 45 to 65% per unit of surface for the ursolic acid and the oily fraction, resp. The content of vitamin C in the same varieties of apples can change from year to year, but these changes are small. All northern varieties were rich in vitamin C (25-40 mg. %), but it decreased rapidly during storing. The increase of the content and stability of vitamin C in the hybrids of *M. baccata* (from 13.1-23.6 to 24.7-51.6 mg. % of fresh wt.) establishes a specific effect of hybridization which can be utilized for selection purposes. W. R. Henn

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

110

Chemical differences in different varieties and groups of apples. A. S. Yecher and V. N. Bukin. *Biokhim. Kul'tur. Rastenii* 7, 43-57(1940).—The yellow and red *M. sylvestris* apples contain, resp., in percentage of fresh wt.: water 78.39 and 82.81, invert sugar 5.94 and 5.51, sucrose 3.72 and 3.31, total sugar 9.66 and 8.82, acidity 1.66 and 1.00, tannic substances 0.23 and 0.29, ash 0.51 and 0.46. The ratios sugar acid are 5.8 and 8.8, resp. The compn. of forest apples is: water 82.05, sol. substances 10.21, insol. substances 7.72, acidity 2.42, pH of the juice 3.24, total sugar 7.24, tannic and coloring substances 0.42, N substances 0.85, pectin (from Ca pectate) 1.38, pentosans 1.16, cellulose 2.47, ash 0.71, alky. of ash (in cc. of *N* acid per g. of ash) 10.4. The sugar acid ratio is 3.0. The compns. of small (18 g.) and large (30 g.) *M. prunifolia* apples are, resp.: water 82.25 and 86.76, invert sugar 7.07 and 6.56, sucrose 0.80 and 3.33, total sugar 7.93 and 9.89, acidity 2.32 and 0.78, tannic substances 0.34 and 0.50, ash 0.55 and 0.45% on the fresh wt., and the sugar acid ratios are 3.4 and 12.7. The av. chem. compn. of summer varieties of apples is: water 86.18, invert sugar 7.27, sucrose 2.33, total sugar 9.60, acidity 0.64, tannic substances 0.13 and ash 0.37% on the fresh wt. The sugar acid ratio is 15.00. The av. chem. compn. of the autumn varieties of Moscow apples is: water 87.71, invert sugar 6.46, sucrose 1.07, total sugar 8.37, acidity 0.63, tannic substances 0.11 and ash 0.56%. The sugar acid ratio is 13.5. The av. chem. compns. of Tashkent and Crimean apples are, resp. water 84.33 and 83.61, invert sugar 10.03 and 9.85, sucrose 3.00 and 1.24, total sugar 13.12 and 11.09, acidity 0.27 and 0.32, tannic substances 0.07 and none, ash 0.33 and 0.39%. The sugar acid ratios are 49.6 and 34.3. The contents of vitamin C in mg. per 100 g. in the Southern varieties, Northern varieties, Michuringsk varieties, wild varieties and the *M. baccata* hybrids are, resp.: 4.70-15.7, 10.8-45.0, 6.5-24.12, 17.3-61.2 and 34.5-51.6. All these varieties were analyzed during the periods of their max. content of vitamin C. W. R. Henn

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VECHER, A. S.

20788. Vechek, A. S. Merkurometricheskiy sposov opredeleniya knloridov (povarennoy soli) v konservakh. Trudy Kracnodarsk. in-ta pishch. prom-sti, vyp. 4, 1946, s. 43-49

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949.

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PROCESSES AND PROPERTIES INDEX

Polyvitamin preparation. A. S. Verber. U.S.S.R. 69,089, Aug. 31, 1947. Plastid obtained mechanically from plants is used as a therapeutic polyvitamin prepn. It is suitable for combating avitaminosis A, D, E, and K, and partly also V and S. M. Hosch

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VECHER, A.S.

CA

11 D

The plastids of carrots as colloidal systems and vitamin bearers. A. C. Vecher (Nutrition Inst., Krasnodar, Russia). *Biokhimiya* 12, 190-200(1947). The carrot plastids are the sole bearers of carotene in the plant cell, where they float in a noncryst. condition in the cell juice and protoplasm. The prepn. of carotene resolves itself in the sepn. of the plastids in pure form from the plant material. The residue of juice, cytoplasm, and cell wall is a by-product. The plastids and parts of plastids (granules) were sepd. by a specially built supercentrifuge. Plastids in water suspension are coagulated by electrolytes, especially by cations. Adsorbents used for carotene isolation actually flocculate the plastids. The compn. of carrot plastids is, in %, total N 4-5; nonprotein N 0.40-0.45; protein 22-31; ash 6.6-8.9; carbohydrates 3.0-13.0 (starch 2.0-4.0); Et_2O-sol. fraction 31-34; P_2O_5 2.2-3.2; Fe 0.1-0.2; carotene 2.15-2.42; ascorbic acid 0.12; Cu 53 mg. per kg. H. Priestley

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VECHER, A. S.

20787. Vechek, A. S. Manometricheskiye trubki dlya opredeleniya davleniya v butylkakh pri proizvodstve shampanskogo. Trudy Krasnodask. in-ta pischc. prom-sti, vyp. 3, 1948, s. 137-40.

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949.

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VECHER, A.S.

20789. Vecher, A. S. Refraktometricheskiye opredeleniya spirta i spkhara v vinakh i ikh irimeneniye pri kontrole proizvodstva shampanskogo. Trudy Krasnodarsk. in-ta pishch. prom-sti, vyp, 3, 1948, s. 233-36. —Bibliogr. 6 nazv.

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A. S.

20790. Vecher, A. S. i Loza, V. M. O znachenii vitaminov C i B_1 v shampanskom proizvodstve. Trudy Krasnodarsk. in-ta pishch. prom-sti, vyp. 3, 1948, s. 233-36. —Bibliogr. 6 nazv.

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CA

16

Clarifying wine with bentonites. V. M. Loza and A. S. Yecher. *Vinodelie i Vinogradarstvo S.S.S.R.* 8, No. 3, 8-11(1948).—Bentonite suspensions neutralized (to phenolphthalein) by H_2SO_4 retain their clarifying powers without affecting the titratable acidity of the wine; such suspensions are therefore recommended for treating wines of low acidity. Further neutralization gives a denser ppt. However, neutralization is not a requisite for bentonite suspensions in most cases, since at ordinary dosages acidity is not lowered more than 0.2%.

H. Oatfield

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10

CA

Refractometric method of control in wine production. A. S. Vecher. *Vinodelie i Vinogradarstvo S.S.S.R.* 8, No. 6, 19-21(1948).—Analytical calcns. and procedure for detg. ext. in wine when alc. content is known, refractometric detn. of sugar in champagne production, and of sugar and alc. in fermentation of juices and wines. H. O.

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CP

Colorimetric determination of vitamin A by adsorption on bentonite A. S. Vechet. *Biokhimiya* 13, 501-7 (1948). Vitamin A and many carotenoids are adsorbed from certain solvents with the formation of an intense blue color. The reaction is given when the following solvents are used: ligroin, C_6H_6, $C_6H_5Cl_2$, CCl_4, $CHCl_3$, and xylene. In the presence of Et_2O, Me_2CO, EtOH, MeOH, MeCOEt, and H_2O, no color is formed. The bentonite is first activated by treatment with dil. HCl. As with $SbCl_3$, vitamin A gives a more intense coloration with bentonite than does carotene. The color formed by the adsorption of vitamin A on bentonite is 6 times more intense in $CHCl_3$ than in ligroin. The reaction is made quant. by comparing the color with 15 standards consisting of 0.1 g. untreated bentonite mixed with 0.7-7.0 mg. ultramarine in 0.5 ml. dry ligroin or $CHCl_3$. This color range corresponds to 2.5-20.2 γ vitamin A in $CHCl_3$ and to 13.0-135.0 γ in ligroin. The results are as accurate as those given by the Carr-Price reaction (*C.A.* 20, 3020).
H. Priestley

INST. OF FOOD INDUSTRY, KRASNODAR

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VECHER, A. S.

19845 VECHER, A. S., Vydeleniye i franktsionirovaniye dispersnykh chastits v biologicheskikh suspenziyakh pri pomoshchi supertsentrifugi. Izvestiya Akad. Nauk SSSR, Seriya biol., 1949, No. 3, s. 270-80. — Bibliogr: s. 280.

SO: LETOPIS ZHURNAL STATEY, Vol. 27, MOSKVA, 1949.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A. S.

21830 LOZA, V. N. i VECHER, A. S.

Osvetleniye vin bentonitami.
Trudy Krasnodarsk. in - ta pishch. prom - sti, Vyp. 6, 1949, s. 139 - 48.
Bibliogr: 6, NAZV.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949

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VECHER, A. S.

VECHER, A. S. I. GRESHNOV, P. D.
33214. Vakuumnyy sposob Opredeleniya Uglekislogo Gaza V Vine. Vinodelye I Vinogradartvo SSSR, 1949, No. 10, c. 33-35

SO: Letopis' Zhurnal'nykh Statey, Vol45, Moskva, 1949

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VECHER, A. S. Doc Biolog Sci

Dissertation: "Chemical Nature of Plastids and Methods for their Investigation." 28/12/50

Inst of Biochemistry imeni A. N. Bakh, Acad Sci USSR

SO Vecheryaya Moskva
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CN

16

Effectiveness of various bentonites in the clarification of wine. V. M. Loza and A. S. Vecher. *Vinodelie i Vinogradarstvo S.S.S.R.* 10, No. 7, 35-9(1950); *cf. C.A.* 43, 353*e*.—Since it was known that the capacity for intracryst. expansion is an important factor on the effectiveness of the clarification of wines with bentonite (I), this property of various bentonites was studied. The bentonites used were gray "oganliinskii," "Shor-su," "Askankii," "Paraskarskaya," and Crimean bentonite. Since the intracryst. expansibility of the I seems to depend on its montmorillonite (II) content, the content of II in the various samples of I was detd. The colorimetric reaction of benzidine with II was used as an indication of the amt. of II present. Oganiskii I gave the strongest reaction and in decreasing order of reaction came Askanskii, Crimean, Shor-su, and Paraskarskaya I. Paraskarskaya I was excluded from the investigation because of its low II content and its high carbonate content. For effective clarification of wines, I must be at least 90% colloid. The Crimean I, although having a satisfactory swelling capacity, especially after treatment with alkali, had only 18% colloid and was therefore unsuitable. The cation-exchange values for the various I samples vary from 92 to 100 equiv. per 100 g. The various samples of I are compared in their speed and completeness of wine clarification and these values are correlated with phys. and chem. properties of the sample. I is used in doses of 100-200 g. per decaliter. Treatment of red wine with I decreases color intensity, while the color of other wines, particularly young wine, is either unaffected or intensified. I is more suitable than isinglass for wine clarification. Clarification with I improves the taste and mellowness of most wines.

S. Gottlieb

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Vecher, A.S.

USSR

Making use of carrot juice in the production of fruit wines. A. S. Vecher (Inst. Food Ind., Krasnodar). *Biokhim. Vinodeliya, Akad. Nauk S.S.S.R., Sbornik* 4, 250-7(1953).—The by-product of the manuf. of the carotene-contg. prepns. from carrots, carrot juice after removal of the cytoplasm and chromoplasts, represents a semitransparent yellow, slightly sweet liquid, possessing the taste of a rye bread and the following chem. compn.: extractable substances 9.34, sugar 6.57, ash 0.37, nitrogenous substances 0.04, P_2O_5 0.0287 g./100 ml., and acidity 0.20 and Fe 1.72 mg./l., resp.; d_{20} 1.0369 (fresh carrots: dry substance 8.39-9.44 and sugar 6.87-7.25%, resp.). This juice mixed 1:1, 1:2, or 3:2 with apple or other fruit juices gives, after alc. fermentation, products contg. higher amts. of alc. and lower acidity than the products obtained from the fruit juices alone. Organoleptic tests revealed no signs of the carrot flavor. Owing mostly to the nitrogenous substances of the carrot juice which promote the growth of the yeast cells, the alc. fermentation of the mixed musts proceeds more intensely. E. Wierbicki

MD

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VECHER, A.S.

Chemical Abst.
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Biological Chemistry

3

The bioenergy potential of plastids in plant cells. A. S. Vecher and O. B. Krayanskii (Inst. Food Ind., Krasnodar). *Biokhimiya* 18, 452-55(1953).—Bioenergy potential is defined as the total of thermodynamic potentials of the various processes occurring in the plastids. The combustion heat of the isolated plastids was compared with that of the tissues of the whole plant in alfalfa, spinach, carrots, and squash. The energy content of plastids was found to be higher than that of the tissue of the whole plant. In comparing the two, consideration must be given to the fact that in dry alfalfa plastid wt. is 25%, in spinach 20, in carrots 5, and in squash 10. The ether-extractable fraction of the plastids has a very high combustion value. The spinach chloroplast lipide substances reach a heat of 8480 cal./g., of which carotene and β-ionone reach correspondingly heats of 9855 and 9042 cal./g. The substances remaining in the plastids after ether and alc. extn. still have a heat of combustion considerably higher than that of other plant tissues.

B. S. Levine

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

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VECHER, A. S.

Adsorption-photometric method for the determination of thiamine (vitamin B_1). A. S. Vecher and O. B. Krayanskii (Krasnodarsk Inst. Food Ind.). *Biokhimiya* 18, 743-7 (1953). Bentonite was used as an adsorbent and hydrosulfite as the reaction and color-developing agent with thiamine (Lipmann, *C.A.* 32, 1307[8]). With these as a basis an adsorption-photometric modification of a colorimetric method for the detn. of thiamine with the aid of diazotized *p*-aminoacetophenone was developed. The modified method is sufficiently sensitive and accurate to be of value for ordinary practical purposes. B. S. Le

6

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VECHER, A.S.

AGABAL'YANTS, G.G., professor, doktor sel'skokhozyaystvennykh nauk; NILOV, V.I., doktor khimicheskikh nauk, retsenzent; POPOV, K.S., kandidat tekhnicheskikh nauk, retsenzent; UNGURYAN, P.N., kandidat tekhnicheskikh nauk, retsenzent; VECHER, A.S., professor, doktor biologicheskikh nauk, spetsredaktor; MASLOVA, Ye.F., redaktor; GOTLIB, E.M., tekhnicheskiy redaktor

[Chemical and technological control in Soviet champagne production; manual for plant laboratories] Khimiko-tekhnologicheskii kontrol' proizvodstva Sovetskogo shampanskogo; rukovodstvo dlia zavodskikh laboratorii. Moskva, Pishchepromizdat, 1954. 383 p. (MLRA 7:11)
(Champagne (Wine))

VECHER, A.S.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

Rapid colorimetric method for determination of iron in white wines. A. S. Vecher and V. A. Petrov (Inst. Food Ind., Krasnodar). *Vinodelie i Vinogradarstvo S.S.S.R.* 14, No. 8, 6-9(1954).—Place 10 ml. of wine in a 25-ml. volumetric flask and titrate with 2*M* NaOAc soln. at pH 3.6-4.5 with bromophenol blue. Add 1 ml. 10% $HONH_3.HCl$ chloride and 1 ml. 0.2-0.5 aq. soln. of *o*-phenanthroline. After 30 min. dil. to mark and measure the intensity of color. Det. Fe^{+++} and Fe^{++} with *o*-phenanthroline and det. the Fe in complex after calcination of the dry residue of wine. M. Charmandarian

MP

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

Vecher, A.S.

Influence of ascorbic acid on OV-potential and quality of champagne. A. S. Vecher and V. M. Loza. *Vinodelie and Vinogradarstvo* ~~S.S.S.R.~~ 15, No. 4, 22-7(1955).—The taste of acetamide in wine is due to a high OV-potential (I), i.e. oxidation-reduction processes during fermentation. Consequently contact with O should be minimized. I decreases also in the presence of H_2SO_4, but toxicity limits its use; the max. is 10-20 mg. SO_2/l. The most promising method to decrease I is the use of about 100 mg. ascorbic acid (II)/l. II eliminates toxicity, improves taste and stability, and does not introduce any color.

Michael Dymicky

2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.

USSR/Chemical Technology - Chemical Products and Their Application. Fermentation Industry. I-12

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2888

Author : Vecher, A.S.
Inst : -
Title : Refractometric Determination of Sugar in Champagne Liqueurs

Orig Pub : Vinodeliye i vinogradarstvo SSSR, 1957, No 4, 20-23

Abstract : A study of the effect of various factors on the results of refractometric determinations of sugar in champagne liqueurs. On the basis of the data thus obtained a work table has been compiled for making corrections in the refractometer readings, depending on the content of alcohol and of total extract in the liqueur, and the extractability of the blending wine.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; ULITIN, O.A.

Glycerol and 2,3-butanediol determination in wines. Izv. vys. ucheb. zav.; pishch. tekh. no.1:103-108 '58. (MIRA 11:8)

1. Krasnodarskiy institut pishchevoy promyshlennosti, Kafedra fizicheskoy i kolloidnoy khimii.
(Wine and wine making—Analysis) (Glycerol) (Butanediol)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; FILIN-KOLDAKOV, B.V.

Polarographic determination of the solubility of oxygen in wine.
Izv. vys. ucheb. zav.; pishch. tekh. no.3:141-144 '58.
(MIRA 11:9)

1. Krasnodarskiy institut pishchevoy promyshlennosti, Kafedra fizicheskoy i kolloidnoy khimii.
(Wine and winemaking--Analysis) (Polarography)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; ULITIN, O.A.

Determining the activity of lipase in sunflower seeds by the formation of free glycerin. Izv.vys.ucheb.zav.pishch.tekh. no.4:152-155 '58. (MIRA 11:11)

1. Krasnodarskiy institut pishchevoy promyshlennosti, Kafedra fizicheskoy i kolloidnoy khimii.
(Lipase) (Glycerol) (Sunflower seed)

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FROLOV-BAGREYEV, A.M., prof., doktor sel'skokhoz.nauk; VECHER, A.S., prof., doktor biolog.nauk, spetsred.; BELIKOVA, L.S., red.; RESH, G.S., red.; GOTLIB, E.M., tekhn.red.

[Works in wine chemistry and production] Trudy po khimii i tekhnologii vina. Moskva, Pishchepromizdat. Vol.2. [Chemistry of grapes and products of their processing; selected articles] Khimiia vinograda i produktov ego pererabotki; izbrannye stat'i. 1959. 355 p. (MIRA 13:1)

(Wine and wine making) (Grapes)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.

Industrial production of glutamic acid and its monosodium salt. Izv.vys.ucheb.zav.; pishch.tekh. no.1:45-55 '59. (MIRA 12:6)

1. Krasnodarskiy institut pishchevoy promyshlennosti, kafedra fizicheskoy i kolloidnoy khimii.
(Glutamic acid)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; SHTUKAR', O.K.; NOSONOVICH, L.S.

Biochemical characteristics of potato varieties based on the composition of cell sap. Bull. Inst. biol. AN BSSR no.5:186-195 '60. (MIRA 14:7)

(POTATOES—VAROETOES) (PLANTS—CHEMICAL ANALYSIS)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A. S., MASHKO, A. A. (USSR)

"Amino-Acid Compositions of the Proteins from Various Types of Plastids."

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

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, Aleksandr Stepanovich, prof.; BULAT, O., red. izd-va; VOLOKHANOVICH, I., tekhn. red.

[Properties, composition, and structure of plant plastids] Plastidy rastenii, ikh svoistva, sostav i stroenie. Minsk, Izd-vo Akad. nauk BSSR, 1961. 191 p. (MIRA 14:5)
(Plant cells and tissues)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; CHAYKA, M.T.; PREDKEL', K.I.

Content of pigments in potatoes exposed to light in different seasons and later stored in a dark place. Biul. Inst. biol. AN BSSR no.6:175-178 '61. (MIRA 15:3)

(POTATOES)
(PLANTS, EFFECT OF LIGHT ON)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; GURINOVICH, Ye.S.; KURBATOVA, S.I.; KABAYLOVA, I.V.

Accumulation of biomass in fodder yeast during its growth in a potato juice. Biul. Inst. biol. AN BSSR no.6:179-183 '61. (MIRA 15:3)

(YEAST)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; CHAKAY, M.T.

Dynamics of the accumulation of pigments in greening potato tubers. Dokl.AN BSSR 5 no.5:223-225 My '61. (MIRA 14:5)

1. Institut biologii AN BSSR.
(Potatoes) (Color of plants)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; LOZA, V.M.

Effect of ascorbic acid on the redox potential and quality of the wine in case of its champagnizing with the bottle method. Trudy KIPP no.22:139-150 '61. (MIRA 16:4)
(Champagne (Wine)) (Ascorbic acid)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; LOZA, V.M.

Effect of ascorbic acid on champagne wine materials. Trudy KIPP no.22:151-161 '61. (MIRA 16:4)
(Champagne (Wine)) (Ascorbic acid)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

GODNEV, T.N., otv. red.; VECHER, A.S., red.; TERENT'YEV, V.M., red.; GONCHARIK, N.M., red.; MASHTAKOV, S.M., red.; BULANOV, P.A., red.; ZAYTSEVA, T., red. izd-va; SIDERKO, N., tekhn. red.

[Physiology and biochemistry of plants]Fiziologiia i biokhimiia rastenii. Minsk, Izd-vo Akad. nauk BSSR, 1962. 127 p. (MIRA 15:9)

1. Akademiya navuk BSSR, Minsk. Instytut biialogii.
(Plant physiology)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

RODOPULO, Aleksandr Konstantinovich; AGABAL'YANTS, G.G., doktor sel'khoz. nauk, retsenzent; VECHER, A.S., doktor biol. nauk, spets. red.; PRITYKINA, L.A., red.; SATAROVA, A.M., tekhn. red.

[Biochemical processes in wine making]O biokhimicheskikh protsessakh v vinodelii. Moskva, Pishchepromizdat, 1962. 178 p. (MIRA 16:2)

(Wine and wine making--Analysis)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

MATOSHKO, I.V. [Matoshka, I.V.]; VECHER, A.S. [Vechar, A.S.]

Amount of nucleic and other forms of phosphorus in maturing lupine seeds. Vestsi AN BSSR.Ser.Biial.nav. no.2:56-61 '62. (MIRA 15:8)

(LUPINE) (PHOSPHORUS METABOLISM)
(SEEDS)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; MAS'KO, A.A.

Amino acid composition of proteins in different plastid types.
Dokl. AN BSSR 6 no.3:193-195 Mr '62. (MIRA 15:3)

1. Institut biologii AN BSSR.
(CHROMATOPHORES) (AMINO ACIDS)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; CHAYKA, M.T.

Photosynthetic activity of the green potato tubers. Dokl. AN BSSR 6 no.5:331-333 My '62. (MIRA 15:6)

1. Institut biologii AN BSSR.
(Photosynthesis)
(Potatoes)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

KREMNEVA, L.S. [Kramnlova, L.S.]; VECHER, A.S. [Vechar, A.S.]

Conditions for the accumulation and the mechanism of the formation of riboflavin by the micro-organism Eremothecium ashbyii. Vestsi AN BSSR. Ser. biial. nav. no.4:54-63 '63. (MIRA 17:8)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; VASIL'KEVICH, O.K.

Rapid method for the refractometric determination of native proteins in vegetable juices. Dokl. AN BSSR 7 no.7:481-484 Jl '63. (MIRA 16:10)

1. Institut biologii AN BSSR.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

BULANOV, P.A., red.; VECHER, A.S., red.; GODNEV, T.N., red.; GONCHARIK, N.M., red.; LYAKHNOVICH, Ya.P., red.; MASHTAKOV, S.M., red.; MIRONENKO, A.V., red.; TERENT'YEV, V.M., red.

[Physiological characteristics of cultivated plants] Fiziologicheskie osobennosti kul'tiviruemykh rastenii. Minsk, Izd-vo "Nauka i tekhnika," 1964. 130 p. (MIRA 17:6)

1. Akademiya navuk BSSR, Minsk. Institut eksperimental'noy botaniki i mikrobiologii.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S. [Vechar, A.S.]

Transformation of substances by micro-organisms. Vestsi AN BSSR. Ser. biial. nav. no.1:65-75 '64. (MIRA 17:6)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

BULKO, O.R.; VECHER, A.S.

Protein substances and nucleic acids in the process of change in the dry substances of lupine seeds in germination. Dokl. AN BSSR 8 no. 3:195-198 Mr '64. (MIRA 17:5)

1. Institut eksperimental'noy botaniki i mikrobiologii AN BSSR.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

KREMNEVA, L.S.; [illegible], A.S.

Accumulation of [illegible] from Kremotherium [illegible] in the nutritive media with potato extract and lupine meal. Dokl. AN BSSR 8 no.6:[illegible]-410 Je '64. (MIRA 17:10)

1. Institut eksperimental'noy botaniki i mikrobiologii AN BSSR.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

BULKO, O.P.; VECHER, A.S. [Vechar, A.S.]

Changes in protein substances in lupine seeds during germination. Vestsi AN BSSR. Ser. biial. nav. no.3:67-71 '65. (MIRA 18:11)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

MATOSHKO, I.V.; VECHER, A.S.

Nitrogen containing substances in ripening lupine seeds.
Bot.; issl.Bel.otd.VBO no.7:10-20 '65. (MIRA 18:12)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

RYABUSHKO, T.A.; VECHER, A.S.

Proteolytic activity of actinomycetes. Prikl. biokhim. i mikrobiol. 1 no. 6:645.652 N-D '65. (MIRA 18:12)

1. Belorusskiy gosudarstvennyy universitet imeni Lenina. Submitted April 23, 1965.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

BULKO, O.P.; VECHER, A.S.

Effect of light on the nucleic acid content and ribonuclease activity in germinating lupine seeds. Dokl. AN BSSR 9 no. 4: 262-265 Ap '65 (MIRA 19:1)

1. Institut eksperimental'noy botaniki i mikrobiologii AN BSSR. Submitted December 9, 1964.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

RYABUSHKO, T.A.; VECHER, A.S.

Amylolytic activity of Actinomyces aureofaciens [illegible] in the process of production. Dokl. AN BSSR 9 no. 5:333-336 My '65 (MIRA 19:1)

1. Belorusskiy gosudarstvennyy universitet imeni V.I. Lenina i Institut eksperimental'noy botaniki i mikrobiologii AN BSSR. Submitted February 4, 1963.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; KURBATOVA, S.I.

Relation between the optic suspension density of yeast cells and their concentrations. Prikl. biokhim. i mikrobiol. 1 no.2:244-246 Mr-Ap '65. (MIRA 18:11)

1. Institut eksperimental'noy botaniki i mikrobiologii AN BSSR.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; RESHETNIKOV, V.N.

Differences in the nature of proteins in the tubers of some potato varities. Dokl. AN BSSR 9 no.10:690-694 O '65. (MIRA 18:12)

1. Institut eksperimental'noy botaniki i mikrobiologii AN BSSR. Submitted April 30, 1965.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; NYABUSHKO, T.A.

Amylolytic activity of actinomycetes. Prikl. biokhim. i mikrobiol. 1 no.3:269-273 My-Je '65. (MIRA 18:7)

1. Belorusskiy gosudarstvennyy universitet imeni Lenina.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S.; MATOSHKO, I.V.

Accumulation of nucleic and other forms of phosphorus, total and protein nitrogen in maturing lupine seeds. Biokhimiia 30 no.5:939-946 S-O '65. (MIRA 18:10)

1. Institut eksperimental'noy botaniki i mikrobiologii AN BSSR, Minsk.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

VECHER, A.S. [Vechar, A.S.]; MAS'KO, A.A.; CHAYKA, N.T.

Change in the plastids of potato tubers under the influence of many days of light. Vestsi AN BSSR Ser. biial. nav. no.3:74-80 '64 (MIRA 18:1)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859220006-8

MATOSHKO, I.V.; VECHER, A.S.

Changes in the content of phosphorus compounds, total and protein nitrogen in ripening lupine seed germs. Dokl. AN BSSR 9 no.2:127-130 F '65. (MIRA 18:5)

1. Otdel genetiki i tsitologii, Institut eksperimental'noy botaniki i mikrobiologii AN BSSR.

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