50X1-HUM

CLASSIFICATION CONFIDENTIAL

CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT

CD NO.

COUNTRY	USSR
SUBJECT	Scientific - Biology, trace elements
HOW PUBLISHED	Bimonthly periodical
WHERE PUBLISHED	Moscow
DATE PUBLISHED	Nov - Dec 1953
LANGUAGE	Russian

DATE OF INFORMATION 1953

DATE DIST. 28 Apr 1954

NO. OF PAGES 2

SUPPLEMENT TO REPORT NO.

THIS IS UNEVALUATED INFORMATION

SOURCE Uspekhi Sovremennoy Biologii, Vol 36, No 3 (6), pp 385-398

RESEARCH ON TRACE ELEMENTS IN THE USSR

V. V. Koval'skiy

[Comment: The following report is taken from a review of A. O. Voynar's book, "The Biological Role of Trace Elements in Animal and Human Organisms" (Biologicheskaya Rol' Mikroelementov v Organizme Zhivotnykh i Cheloveka), published by Sovetskaya Nauka, Moscow, 1953. The review appeared in Uspekhi Sovremennoy Biologii, Vol 36, No 3 (6), November - December 1953, pp 395-398. According to "Trace Elements in the Living Processes of Plants and Animals," edited by A. P. Vinogradov (Moscow, 1952), USSR research on the biological significance and biogeochemistry of trace elements is of interest, because results of work in this field are being applied in prospecting for ores (e.g., cobalt ores), in attempts at the protection of agricultural plants against infectious diseases, in the improvement of the yields of agricultural crops by using special fertilizers, and in treatment of nutritional deficiences of livestock. According to the New York Times of 14 February 1954, A. P. Vinogradov (whose connection with research on trace elements is mentioned below) was quoted by Moscow Radio in 1947 as saying that radioactive elements were being used in the USSR to increase the yields of rubber-bearing plants and of sugar beets. Also, Data on this subject appeared in "The Biological Role of Natural Radioactive Elements" by A. A. Drobkov, Uspekhi Sovremennoy Biologii, Vol 31, No 1, pp 82-100, 1951.]

Although the majority of the trace elements which enter into the structural composition of plants and animals were discovered during the 19th Century and in the beginning of the 20th Century, the greatest achievements in the study of the elemental composition of organisms and the clarification of the biological role of trace elements have been made in the past 25 or 30 years.

50X1-HUM

CLASSIFICATION CONFIDENTIAL

STATE		NAVY		NSRB		DISTRIBUTION							
ARMY		AIR		FBI									

Research on trace elements is being carried on in the Soviet Union in the following laboratory and institutes: the Laboratory of Biogeochemistry imeni Academician V. I. Vernadskiy, now under the direction of Academician A. P. Vinogradov; the All-Union Institute of Animal Husbandry, under Prof V. V. Koval'skiy; the Institute of Zootechnic and Zoohygiene of the Academy of Sciences Latvian SSR, under Prof Ya. M. Berzin; the Institute of Animal Husbandry of the Academy of Sciences Lithuanian SSR; the Institute of Botany of the Academy of Sciences Ukrainian SSR, under Prof. P. A. Vlasyuk; the Botanical Institute imeni B. L. Komarov of the Academy of Sciences USSR, under M. Ya. Shkol'nik; the Vitebsk Veterinary Institute under F. Ya. Berenstein; and the Medical Institute of the city of Stalino, under A. O. Voynar.

The All-Union Conference on Trace Elements, held in Moscow in 1950 at the instigation of the Trace Element Commission of the Academy of Sciences USSR, has given added impetus to the work on this subject during the past few years. The conference, attended by more than 300 delegates from various scientific institutions of the USSR, listened to and discussed more than 100 reports; it then pointed out the way to further success in the development of research on trace elements and their application in various parts of the national economy. The transactions of this conference were published in 1952 under the title "Trace Elements in the Living Processes of Plants and Animals" (Mikroelementy v Zhizni Rasteniy i Zhivotnykh).

Prof A. O. Voynar's book fills in many of the existing gaps in our knowledge of this subject. It devotes 16 of its 18 chapters to an examination of the geochemistry, biology, physiology, and biochemistry of the following trace elements: lithium, rubidium, cesium, beryllium, strontium, barium, titanium, vanadium, chromium, molybdenum, manganese, cobalt, nickel, copper, zinc, cadmium, mercury, silicon, aluminum, arsenic, selenium, tellurium, iodine, bromine, fluorine, silver, gold, tin, lead, bismuth, boron, antimony, radium, thorium, scandium, gallium, cerium, germanium, lanthanum, tungsten and thallium. This book is the most complete reference work in existence on the subject.

- E N D -