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TRANSLATION

BIOLOGICAL WEAPONS

By

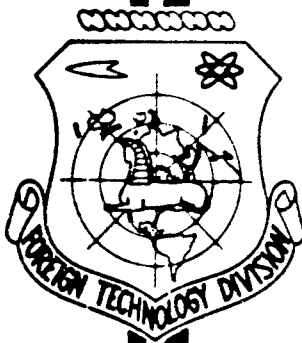
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FOREIGN TECHNOLOGY DIVISION

AIR FORCE SYSTEMS COMMAND

WRIGHT-PATTERSON AIR FORCE BASE

OHIO



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BIOLOGICAL WEAPONS

BY: A. Ivanov

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BIOLOGICAL WEAPONS

FIRST LINE OF TEXT

by

A. Ivanov

Not considering the general opinion, nations of the imperialistic block, continue to improve and accumulate not only nuclear and chemical weapons. They are continuously intensifying thier efforts, in developing the most inhuman and barbaric method of destroying people - biological weapon.

During WWII and in the period preceeding same active development of biological means, was being conducted in Hitler Germany and in Japan. After WWII efforts to develop a biological weapon, was concentrated mainly the USA, Britain and Canada.

Direct investigation of illness, causing microbes and methods of their appli- cation for military purposes in the USA, is being conducted by the scientific- research center Camp Detrich, situated in the state of Maryland near the town of frederick. Testing of the biological weapon, is carried out at US Army range in the state of Utah. In 1952, the Americans employed the biological weapon in Korea. The progressive society of the entire world, stamped this act as an act of barbarism. In spite of all this, the task of creating and improving biological weapons in the USA, is expanding from year to year, and the best proof of it is the continuously growing appropriations of moneys for this purpose. According to data, published in American press, in 1959 for investigations into the field of chemical and biological weapons, was appropriated an amount of 35-40 millions dollars, of which about 28 millions, were designated directly for the development of biological weapons. In 1960/61, the budget for the year designated 55.3 million dollars, for mentioned purposes, and in 1962/63, the budget designated about 150 million dollars.

The english began similar developments back in 1936, at Portone (Wiltshire).

Special great and broad scope, was given to this investigation during WWII years. And they are still going strong.

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Efforts to create a biological weapon in Canada, are made by the chemical
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experimental station, near the city of Saffield (Alberta province). This under-
taking represents a large scientific research center, occupying an area of about
2500 km², on which in addition to labs, are placed secondary installations, airfields
and several test ranges. For field testing biological means, there is a separate
especially built range.

In the opinion of foreign specialists for tactical purposes, can be used only
these disease, causing microbes, which possess high striking effect; ability to grow
on artificial feeding media; stability in manufacture, when stored and artificial
dispersion; ability to spread rapidly by artificial way (particularly in the air),
and difficulty of being detected in an outer medium. Most suitable in biological
warfare, are considered exciters of little investigated diseases, for the prevention
of which there is no effective vaccine and which are difficult in treatment.

From the report, published in journal "Techniks-Vetenskaplig Forsking" in 1963,
(Sweden) is evident, that the possible listing of potential means of biological
warfare, may include 20-25 known stimulants, and among them some bacteria (stimu-
lants of malignant anthrax, brucellosis, sap, tularemia, plague, erysipelas, cholera,
tuberculosis), some types of fungi and simple (stimulants coccidioidomycosis,
histoplasmosis, amebic dysentery, malaria), viruses (stimulants of grippe,
psittacosis, encephalomyelitis of horses, yellow fever, small pox, valley fever,
Rift, Japanese encephalitis, spring-summer encephalitis, foot-mouth disease), rickets
(stimulants of Ky-fever, epidemic spinal typhoid, spotted fever of rocks), as well
as, toxins (e.g. botulinic toxin. According to data by American specialists, to
strike agricultural animals, can be employed plague stimulants, for cattle, plagues
for porkers and Newcastle disease for birds. In role of possible means of destroy-
ing young crops, together with plant disease stimulants, are investigated 4 -----
substances (chemical), known under the name of plant growth or herbicides (for -----
----- 2 ----- 2 -----
example 2, 4-dichlorophenoxyacetic acid). Substances of that group, possess a -----
selective physiological activity, with respect to plants. In small dosages, they -----
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stimulate, but in larger ones, they arrest the growth of plants or completely
FIRST LINE OF TEXT
destroy same. Because of this, they are considered abroad in role of effective
means of biological warfare.

Together with herbicides, the USA is developing defoliants - chemical substances, causing falling of leaves from trees and bushes. The Americans are continuously employing herbicides and defoliants, in South Vietnam, they spray with them, the young plants and forests in the liberated regions of this country, in order to deprive the population of supplies and to unmask the communication lines of the guerillas.

In recent years, the Americans, developing bacteriological weapons, attach extremely great attention to genetic investigations, with the aid of which they figure to obtain now, more effective varieties of stimulants and in this way, even more increase, the effectiveness of the biological weapons. Studied are also possibilities of simultaneous combined application of several stimulants figuring, that this will increase the acuteness of the diseases, and also complicate the work in determining the types of microorganisms, used by the opponent.

But the effectiveness of the biological weapon, as maintained by foreign specialists, depends not only upon the striking effect of the disease stimuli, but also upon the proper selection of methods, for their tactical application.

The basic method of employing biological means, by estimates of foreign specialists, is spraying of same in the air and creation in this way of a biological aerosol (biological cloud). In role of technical means for spraying biological compounds, is proposed the use of special devices - sprayers or biological ammunition (Avia bombs, mines etc.). When employing biological ammunition, their content is dispersed into minute droplets, as a result of explosion of the BB = biological bomb, contained into the ammunition. To construct such means, it is considered
3
necessary to take under consideration, the stability of the microorganisms, in
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order to attain minimum deactivation of same, in the process of dispersion, and
0
also to assure high degree of crumbling of the compounds, because upon the dimensions
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of the aerosol particles, depends the striking effect of the biological cloud.
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The biological cloud, spreading by the wind, can strike personnel over a larger area and even if it is situated in hidden, reliably protected areas, protected against other types of weapons.

The duration of action of the microbes, sprayed in the air, is determined by the properties of the very microorganisms, and by the concrete conditions, existing in the region of the target. An important role in this respect, is played by meteorological conditions: velocity and direction of wind, temperature and humidity of air, intensity of solar radiation, presence of rain, show or fog.

Least dispersion of aerosol and consequently, most favorable conditions for the application of biological means, exist during inversion or isothermia, when the temperature of the air rises, with altitude or remains almost unchanged. In these conditions, the cooled air as if sticks to the earth. During convection (when air temperature decreases with altitude), are formed ascending streams, scattering the aerosol.

Microorganisms, suspended in the air, under the effect of intensive solar light dry up and become ineffective. That is why they are better retained at night and also at low temperatures.

The use of disease stimulants, is considered possible, also dispersing insects in the region of the target, these insects are artificially infected with diseases. This method of conducting biological warfare, was employed by the Japanese. Already ready, back in 1940, the Japanese within a 4 months period, were capable to spread about 135 million plague fleas (45 kg), and planned to increase this number is fourfold.

American specialists assume, that the delivery of biological weapon to the target, can be realized by aircraft, submarines, rockets, guided missiles, and also with the aid of air balloons.

As stated by the Chief of CHWF of the Army USA, general Stabbs*, the method KHBR-weapon - literature abbreviation, designating chemical, biological and radio

~~logical weapon, directly spraying biological compounds from aircraft, assures the possibility of striking living force over a very large area, and is suitable to realize an attack on a country, having large territory.~~

It is pointed out for example, that if a compound with a concentration of $1/10^{10}$ microbes per 1 ml, is sprayed from an altitude of 100 m, from windward direction, from the target on a 50 km line of flight, figuring, that each running meter should be covered with 5 billion microorganisms, then as a result of mixing, the aerosol in the near ground layer of the atmosphere, is created a biological cloud 50 km, in width and 200 m, in height, shifting toward the target by the wind. Initially in each liter, of infected air, there will be 2.5×10^4 microorganisms. As long as such a cloud passes over any populated point, each one may breath in 6 liters of air, which contain 150,000 microbes, while for each infection, it is sufficient about hundreds of microorganisms.

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