THE HYGIENE AND TOXICOLOGY OF
MAJOR INSECTOFUNGICIDES USED IN
AGRICULTURE, CHIEFLY IN THE
COTTON GROWING INDUSTRY

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THE HYGIENE AND TOXICOLOGY OF MAJOR INSECTOFUNGICIDES USED IN AGRICULTURE,
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Following is a translation of a book review by S. M. Tregobov (Samarkand), published in the Russian-language periodical Gigiyena Truda i Professional'nye Zabolevan-
iya, (Industrial Hygiene and Occupational Illnesses) 7(5), 1963, page 61. The book reviewed was written by Kh. Z. Lyubetskiy and B. E. Gurevich and has the title Gigiyena i toksikologiya vazhneyshikh insektotfofungitsidov, primenяемых v sel'skom khozyaystve, glavnym obrazom v khlopkovodstve, Tashkent, 1961, 60 pages, 3,000 copies, price 18 kopecks. Translation of book review performed by Sp 6 Charles T. Ostertag Jr.

The wide implementation of harmful chemical substances in the agricultural technology of the cotton plant requires the realization on the part of public health organs of measures against possible poisonings by them.

The materials found in the book mainly present the current status of the problem. The authors are well acquainted with the state of affairs in the cotton growing industry. They clearly see the missions of medical personnel in connection with the wide implementation of insectofungicides in agriculture.

The central position in the book is occupied by the presentation of the necessary information concerning the most toxic organophosphorus compounds which apparently in the near future will occupy the basic position among insectofungicides.

The most serious shortcomings of the book under review are the extreme brevity and incompleteness of information concerning the prophylaxis of affections by poisonous chemicals. Also information about individual means of protection is fragmentarily presented in the book, since a doctor from the rural medical station, as it is written in the book (page 15), has the duty to give directions and check the ability to use them. It would have been expedient to present a detailed description of all the means of protection and the methods of using them.

The most significant shortcoming of the section "Organophosphorus Insecticides" is embraced in the complete lack of directions about the necessity of investigating the blood for the activity of choline esterases when conducting a medical examination of personnel who are permitted to work with organophosphorus compounds. This is specified by the "Instructions for the use of organophosphorus preparations for the protection of cotton plants from pests.
in the Uzbek SSR in 1961" which are currently in force and in which Kh. Z.
Lyubetskiy and B. E. Gurevich took part in compiling. There should have been
a description of the method for determining choline esterases in the blood
and a list of the necessary equipment and reagents.

It is doubtful if it is justified in this book, which is intended for
the practicing physician and average medical worker, to carry out to excess
the detailed numerical facts about the toxicity of organophosphorus preparations
for various laboratory animals.

In the section "Arsenic preparations", which discloses the therapeutic
measures for stopping the spasms which develop during acute arsenic poisoning
and recalls the necessity of using antispasmodic substances during this (page 38),
the authors do not say what substances and dosages they recommend. Besides the
native specific antidote for arsenic poisoning -- unithiol, it isn't excessive
to mention the similarly acting preparations of dimercaptopropanol which are
produced in countries of the socialist camp and authorized for use in the
USSR (dicaptol, dimercaprol, d"thioglycerol).

In the section "Organic Chloride Preparations" it is inadmissible to
write about the necessity of administering "1 ml of apomorphine subcutaneously"
without indicating the concentration of the recommended solution (page 46).
It is incomprehensible why for compensation of a deficit of calcium in the
organism the authors recommend the use parenterally of only calcium gluconate
and internally only calcium chloride (page 47). Contraindications are unknown
to us for the administration during poisoning by organic chloride compounds of
calcium chloride intravenously and calcium gluconate (and also calcium lactate
of which the authors make no mention) internally. Perplexity is caused by the
recommendation of the authors (page 47) to treat affection of the eyes with a
2% solution of novocaine.

When stating the measures of first aid and treatment of affections by
nicotine and anabasine in the section "Poisonous Chemicals of Vegetable Origin"
(page 55), the authors caution against the use of lobeline, since it possesses
effects similar to nicotine. And the question is raised by the reader: And
in these cases is it safe to use cytisine solution (cytisine) which also acts
similar to lobeline, and to nicotine, though in the make-up of the first aid
medicine chest the authors do not include lobeline but cytisine solution.

It is significant that all the errors (and some of them remained un-
noticed) concern solely the names of medicinal substances or their dosages.

It must be hoped that the next edition of this book which is generally
valuable and of extreme necessity for medical personnel will be published in
the very near future in a supplemented and revised form and moreover with a
considerably larger printing.

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