

had a CT value of 15 (3 ppm for 5 minutes). The chronic pneumonitis is initially centered in the respiratory bronchiole and its evaginating alveoli. There is cellular thickening of these structures with the elaboration of new reticulin fibers. With increasing dosage the lesion extends peripherally, affecting alveolar ducts and sacs as well as the distal alveoli until practically all alveoli between two thickened respiratory bronchioles are involved. These alveoli, in addition to possessing thickened walls, are often filled with desquamated cells. A possible explanation is offered for the initial focalization about respiratory bronchioles of the phosgene-induced chronic pneumonitis. -- Authors' summary

- 670 Ethylene Action and the Ripening of Fruits. S. P. Burg and Ellen A. Burg. Science 148, 1190-1196 (May 28, 1965).

Recent studies employing gas chromatography show that an amount of ethylene large enough to stimulate ripening is always present within a fruit before the respiratory climacter begins. This fact and data from experiments in which fruits were exposed to a partial vacuum or varying concentrations of oxygen, carbon dioxide, and ethylene oxide reinforces the view that ethylene is a ripening hormone. The respiratory climacteric begins soon after the fruit is harvested because the tissue no longer receives from the shoot system a substance which inhibits ripening; this substance may act by lowering the sensitivity of the fruit to ethylene. The threshold for ethylene action is also influenced by the composition of the atmosphere, for oxygen is a substrate in the reaction activated by ethylene and carbon dioxide inhibits the action of ethylene by competing with the olefin for the receptor site. Experiments indicate that ethylene is derived from acetate or acids of the Krebs cycle and acts by binding to a metal receptor site in the tissue. There are 56 references. -- Authors' summary

- 671 Carcinogenic Properties of Benzidine. G. B. Pliss. Federation Proc. Pt. II. (Translation Supplement) 24, T529-T532 (May-June 1965).

Although the question of the carcinogenic properties of benzidine remained unanswered for a long time, it has now been established beyond doubt that benzidine causes tumors of the urinary bladder in workers in the aniline dye industry. For several years the author has been working on the carcinogenic potentialities of benzidine derivatives. To compare the activity and type of neoplastic action it was necessary to study the tumorigenic properties of benzidine under identical conditions. In an attempt to gain more information about the nature of the carcinogenic action of this compound a number of animal experiments have been carried out. It was found that benzidine is a comparatively potent carcinogen. In addition to cirrhotic changes in the liver, rats developed hepatomas, tumors of the cymbal* glands and sarcomas both at the site where the substance is injected and also at remote sites. Females proved more susceptible than males to the toxic action of benzidine.

- 672 Toxicology of New Chlorinated Organic Insecticides Obtained by Diene Synthesis from Hexachlorocyclopentadiene. E. I. Spynu. Federation Proc. Pt. II. (Translation Supplement) 24, T551-T553 (May-June 1965).

Because of the very small absolute size of the lethal doses and concentrations when the preparations are absorbed via the respiratory tract, the skin or the gastrointestinal tract, and also in view of their marked cumulative properties, endrin, isodrin and preparatic No. 948 should be classified as highly toxic pesticides. On the basis of these data, the Committee for the Control of Chemical Poisons has banned the use of these chemical poisons in Soviet agriculture. It has been established by comparative evaluation that aldrin and dieldrin are less toxic. Temporary use of these chemical poisons in agriculture is therefore permitted under strictly regulated conditions. The preparation allodan can be widely used provided the usual safety measures are observed. -- Author's conclusion

* Neoplasms in the cymbal glands arose at the 5.5-month stage, sometimes destroying the bones of the face. Microscopically, they were either squamous-cell keratinizing carcinoma or organoid carcinoma of a sebaceous gland which contained both components of a sebaceous gland and the associated structures of squamous ductal keratinizing epithelium.

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