Thiophene-free Benzene

Since thiophene-free benzene is often required in the laboratory, especially in relatively small quantities, we wish to point out that the Raney nickel desulfurization reaction discovered by Bougault, Cattelain, and Chabrier (*Compt. rend.*, 1939, 208, 657; *Bull. soc. chim.*, 1940, 7, 781) provides an excellent method for its preparation.

In a typical experiment 100 ml. of benzene containing 1 per cent of thiophene was refluxed with 10 grams of Raney nickel prepared according to the method of Pavlic and Adkins (*J. Amer. chem. Soc.*, 1946, 68, 1471). After 15 minutes a sample of the benzene no longer gave the isatin-sulfuric acid color test for thiophene. An experiment using 5 grams of nickel apparently did not remove the last traces of thiophene. After removal of the nickel catalyst either by filtration or centrifugation, the benzene may be distilled, although for most purposes this seems unnecessary. It should be pointed out that the nickel residue gave a strong odor of hydrogen sulfide on acidification.

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Pyridylmercuric Acetate as a Prophylactic in Fisheries Management

Among the compounds recommended by their manufacturers for the control of slime in pulp and paper mills are the organic mercurials. Because, in their use in pulp and paper mill water systems, certain amounts may find their way to the sewer and thence to the stream, we have been studying the toxic effect of this type of compound on fish and other aquatic organisms. To this end the compound, pyridylmercuric acetate, has recently been studied, and in the course of the work a number of incidental observations were made which indicate that, in great dilutions, this compound could be used profitably to control infections in fish hatcheries.

In the work the test fish were Lake Emerald shiners, *Notropis atherinoides* (Rafinesque). Apparently the fish had some infection when introduced into our test battery, for the control group of 17 fish had only 9 survivors (52 per cent) after a five-day test. On the other hand, a group of 28 fish in a solution of 0.05 ppm of the compound had 75 per cent survival; a group of 28 fish in 0.10 ppm, 78 per cent survival; and a group of 19 at 0.15 ppm, 96 per cent survival. Conditions of the tests were as follows: water temperature, 12° C.; pH, 7.38–7.72; and methyl orange alkalinity, 266 ppm.

We were not able to isolate or identify any causative organisms in this instance, but at various times we have had epizootics of *Cyclochaeta*, another external ciliate, and an internal gram-positive diplococcus.

Pyridylmercuric acetate is very toxic to bacteria and is toxic to fish in higher concentrations, but, with study, it might be adapted successfully to fish-hatchery conditions as a treatment for some of the troublesome fish diseases.

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A View on Soviet Russia From Italy

I have read with the greatest interest the articles of Dr. Asmous (*Science*, 1946, 103, 281) and Dr. Gaposchkin (*Science*, 1946, 103, 404).

It is true that the Soviet Army saved the United Nations a great deal of trouble. So did the atomic bomb. Still, scientists of the U. S. A. agree that it is a weapon that one must not use.

It is a *fact* that the Soviet soldiers defeated the Nazi tyranny consciously. But, unfortunately, it is also a *fact* and not a feeling that Soviet tyranny, cruelty, and oppression are even larger, deeper, and worse than was the "horribile dictu" that was the Nazi tyranny.

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Book Reviews

Crop production and environment. **R. O. Whyte. London: Faber and Faber, 1946. Pp. 372. (Illustrated.) 25/-.**

Under this somewhat sweeping title Dr. Whyte, of the Imperial Agricultural Bureau, has given us a valuable presentation of many aspects of applied plant physiology. It would naturally be impossible to include within one book all the influences of environment on crop production. Mineral nutrition, soil science, and irrigation problems are omitted, and the book deals primarily with vernalization, photoperiodism, and the effects of temperature upon flowering.

An introductory chapter lays down briefly the types of phenomena to be considered, and the following two chapters discuss in more detail the early work of Klebs and of Gassner, the researches of Garner and Allard, and the more recent work of the Russian school. With these are included the experiments of Purvis and Gregory and of Murneek and the Missouri group. In spite of the author's pertinent remark that "too many generalizations have been made already" in this field, there is some tendency to overemphasize theories here at the expense of presentation of the facts. The effects of temperature and light on flowering, including an up-to-date description of Went's work on thermoperiodism, the reversal of vernalization by Gregory, and the effects of temperature and other conditions on photoperiodic response, are then presented in some detail. Two brief