Haematoxylin crystals	4 gms.
Alcohol 95 per cent.	25 cc
Sat. sol. of ammonia alum	400 cc

This solution was placed in an open dish, at a distance of 15 cms from a Cooper-Hewitt burner, operating at 140 volts and 3.3 amperes, for one hour. The solution was then filtered and to the filtrate was added:

Methyl alcohol	100 cc
Glycerine	100 cc

This solution was placed under the Cooper-Hewitt burner at the same distance for two hours. The solution was then filtered and used for staining purposes.

No appreciable difference was noticed between the staining quality of the Haematoxylin prepared in this manner and that left for sixty days to ripen.

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SOAP AS A MOSQUITO LARVICIDE

DURING some experiments with mosquito larvicides the writer has observed that the addition of soap has brought about a much larger increase in toxicity to mosquito larvae than that which could be ascribed to improved penetration. This suggested that soap may possess direct toxicity to mosquito larvae. To verify this point tests were carried out with a liquid soap, consisting of a mixture of potassium oleate and cocoanut oil soap containing about 40 per cent. actual soap.

For this purpose larvae and pupae, taken from a partially polluted ditch breeding primarily *C. pipiens,* were transferred to large porcelain dishes containing about 500 cc of a mixture of tap water and ditch water. Various concentrations of soap were then mixed in. After 24 hours the number of dead and living insects were counted.

The results, given in the accompanying table, clearly show that concentrations of 0.2 per cent. soap or higher gave 100 per cent. kill of larvae and pupae.

The value of soap as a larvicide can perhaps be utilized in treating clear standing water, fire barrels, etc., where application of oil or larvicides containing toxic or inflammable chemicals are objectionable.

TOXICITY OF SOAP TO MOSQUITO LARVAE AND PUPAE

Per cent. soap concentration	Number of larvae	Per cent. dead after 24 hours	Number of pupae	Per cent. dead after 24 hours
0.05	80	20	40	5
0.10	100	65	60	55
0.20	80	100	60	100
0.50	60	100	40	100
1.00	80	100	80	100
Check	100	0	60	0

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FIXING THE PRINT OF CARBON COPIES

THE tendency of the print to become smudgy in use in bound copies of dissertations, etc., may be almost entirely eliminated by a simple treatment, that is, of melting the colored wax of the print by heat into the fibers of the paper. This may be accomplished by passing a tall Bunsen flame rapidly over the surface of the sheet. The paper should be lying flat on a smooth, good-conducting surface while flaming. After such a heat treatment the sheets are somewhat warped but may be readily flattened out in a good binder's press.

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SPECIAL ARTICLES

DEUTERIUM OXIDE AND ASPERGILLUS

RECENT investigations seem to indicate that deuterium oxide in high concentrations exerts a toxic or inhibitory effect on living organisms, both plant and animal. However, as a result of his work with *Spirogyra sp.,* it was suggested by Barnes[1] that very unusual and interesting effects might be noted when the deuterium was used in less concentrated solutions. This suggestion has received confirmation and support by Richards,[2] whose observations on the growth of *Saccharomyces cerevisiae* indicate that, in dilute concentrations, deuterium may have a decided effect in accelerating growth and development as opposed to its pronounced lethal effect in high concentrations. Macht and Davis,[3] using a solution of one part deuterium to two thousand parts of protium, expressed

[1] T. C. Barnes, "A Possible Physiological Effect of the Heavy Isotope of H in Water," *Jour. Am. Chem. Soc.,* 55: 4332–4333, 1933; "Further Observations on the Physiological Effect of the Heavy Hydrogen Isotope on Spirogyra," *Am. Jour. Bot.,* 20: 681–682, 1933.

[2] O. W. Richards, "The Growth of Yeast in Water Containing Deuterium," *Am. Jour. Bot.,* 20: 679–680, 1933.

[3] D. I. Macht and M. E. Davis, "Some Pharmacological Experiments with Deuterium," *Jour. Am. Chem. Soc.,* 56: 246, 1934.