

BIBLIOGRAPHY OF PHARMACEUTICAL RESEARCH

Compiled by A. G. DuMez, Reporter on the Progress of Pharmacy.

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THE REPUTED INFLUENCE OF ULTRAVIOLET LIGHT ON THE
 YIELD OF DIGITALIS GLUCOSIDES.*

BY C. S. LEONARD AND JOHN M. ARTHUR.

It has been claimed that the yield of active drug substances in certain drug plants can be altered by differences in the quality of the light under which they are grown. Thus, McCrea (1) has claimed that if seedlings of *Digitalis purpurea* are sprouted and grown for a time under a glass having a high ultraviolet transmission, then set into the field, dried powdered leaf made from these seedlings will yield more cardiac glucosides, as tested by bioassay than will that from similar plants sprouted under window glass and set out into the field.

In examining this work it appeared to the writers that a number of factors were not controlled in Miss McCrea's experiments and that some of these factors could be kept constant during the experimental period with the facilities available at the Boyce-Thompson Institute. The experiments here reported have been in progress for three years. Two strains of seed of *Digitalis purpurea* were obtained, one from Professor Edward Kremers of the University of Wisconsin and grown at the Pharmaceutical Experiment Station there, the other was obtained from a local seedman of the New York district (called Vaughan's strain). Both species were germinated and grown under the standard conditions possible in two air-conditioned greenhouses of the Boyce-Thompson Institute, but one group of each was under "Sunlit" glass with which one greenhouse is glazed, the other under ordinary window glass. The "Sunlit" glass used varied in thickness from 2.5 to 3 mm. Coblenz and Stair (2) found an average transmission for "Sunlit" glass at wave-length 302 $m\mu$ of 65% when new and 39% after solarization by exposure to a mercury vapor

* Contribution from the Burroughs Wellcome and Company Experimental Research Laboratories, Tuckahoe, N. Y., and from the Boyce-Thompson Institute for Plant Research, Inc., Yonkers, N. Y.