DEPARTMENTAL NOTES

THE PROPAGATION OF WATER HYACINTH (EICHHORNIA CRASSIPES SOLMS) BY SEED

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IN a paper published in 1936 (Haigh, J. C.—Notes on the Water Hyacinth in Ceylon—*Ceylon Journal of Science, Section A. Botany*, Vol. XII., Part 2, 1936) there were described the results of an investigation into the conditions under which the water hyacinth was propagated by seed. It was concluded that the conditions of light and heat that are necessary for germination of the seed are always present on the edges of any stretch of water that is not confined by steeply-sloping banks, so that seedlings are likely to be produced at any time during clear sunny weather. The final paragraph of the paper reads " The possibility of the spread of water hyacinth by seedling plants is therefore a real and permanent one. Of the millions of seed produced at every flowering, all but a very few will be deposited in water that is much too deep, and whose temperature is much too low, for germination to take place ; nevertheless, there will always be the favoured few that are shed into very shallow water, and are capable of germination almost at once. The remainder will stay under water until either they rot or they are uncovered sufficiently to produce seedlings ; the period during which they will remain viable has not been determined for Ceylon conditions, but ' at least five years ' has been suggested. Seeds are being kept and will be tested from time to time."

Seed collected in June, 1935, was kept in water in a glass tube in the laboratory. During my absence on long leave from March to December, 1936, the water evaporated, and the seed was dry for the greater part of that time. Water was added on January 9, 1937, and since that time the seed has been kept always under water, in a glass tube on the laboratory bench. On January 12, a few seeds germinated ; germination was rather active for about 10 days, after which it slowed down, and ceased on January 29. It appears, therefore, that although drying of the seed is not an essential preliminary to germination, yet, if the period of drying is sufficiently long, germination will be induced without the necessity of exposing the seeds to the heat of the sun.

At the beginning of each year since 1937, the remainder of the seed has been tested for viability. The procedure has always been the same; seed has been put in a shallow dish and covered with about half an inch of water. The dish has been kept on a bench in the laboratory for several weeks, and once for as long as two months, but no seed has germinated; it has then been put out in the sun, and in periods varying from four to fourteen days, seedlings have appeared. The most recent test has just been concluded, and germination has been quite free although seeds are now almost five years old and have become covered by a thick growth of a green alga.

From the same period, there has been kept another lot of seeds in a dry tube; they have similarly been tested for viability each year, but have failed to produce seedlings since 1938. There is evidently a limited period of existence in the dry condition.

The annual tests of viability will be continued until failure to germinate is recorded, but there is no doubt that " the possibility of the spread of water hyacinth by seedling plants is therefore a real and *permanent* one."