

and from the perfect, unbroken walls of the individual cells.

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"Dionyle P. W." for Rapid Penetration of Fixatives.

It is well known that plant material containing air, for example, flower buds and leaves, etc., does not easily sink to the bottom of the tube containing liquid fixatives specially in those which do not contain alcohol and thus the process of fixation is not as rapid as it should be. When there is plenty of air within the tissues the material remains floating on the surface for a long time or it does not sink at all. Usually suction pumps or water aspirators are used to get rid of the air but in many cases even these are not of much help.

A French Engineer Chemist, Mr. Auguste Blondon of the firm S.A.P.I.C., 33, Quai de Seine, L' Ile-st-Denis, Paris, has recently manufactured a chemical product in the powder form known as Dionyle P. W. which, if added to any plant fixative, allows the material to settle to the bottom with great ease. I have seen Dr. A. Eichhorn using this chemical very successfully with roots, flower buds, etc. I myself have used it with success for fixing the aërial mycelium of *Pythium*. Dr. G. Archambault¹ has tried this chemical and is of opinion that it is very good for rapid penetration of fixatives. He compared the sections of plant material fixed with and without Dionyle in the fixatives and found that the addition of the chemical did not produce any undesirable effects. It has some physical action on account of which pieces of roots sink down rapidly in the fixatives, but in case of leaves and flower buds water aspirators may have to be used for about 2 to 5 minutes. Dionyle is an ether salt of β -naphthalene sulphonic acid with butylic alcohol and isopropyl alcohol. It is easily soluble in water and is neutral in reaction. During the process of its manufacture a little sulphuric acid appears which is neutralised by sodium sulphate, which is not bad for fixation.

In fact it is used in Zenker-formol² fixative the composition of which is given below :

Bichloride of Mercury	.. 5.0 gm.
Bichromate of Potassium	.. 2.5 gm.

Sulphate of Sodium	.. 1 gm.
Distilled Water	.. 100 c.c.

To 9 c.c. of this add 1 c.c. of neutral formaline at the time of using the fixative.

Dr. Eichhorn adds Dionyle to any fixative whatever its composition may be.

In France this chemical is used as steeping agent in Dyeing Industry of wool and cotton in the proportion of 0.4 gm. per 100 c.c. of water. Dr. Eichhorn and Dr. Archambault use the same proportion for plant material. It is added to the fixative before the material is put for fixation or even afterwards. It is not necessary always to weigh it.

The Dionyle P. W. is very cheap and can be had from N. Boube'e and Cie, 3 place St.-Andre-des-arts, Paris (VI). The price for 50 gms. is 4.50 francs and for 100 gms. is 8 francs, i.e., Re. 0-14-0 and 1-10-0 respectively according to the present rate of exchange. It is better to keep it in glass-stoppered bottles.

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University of Allahabad,
August 12, 1935.

At Present :—

C/o Prof. A. Guilliermond,
Memb. de l' Inst.,
12 Rue Cuvier, Paris, Ve.

¹ Archambault, G., *Revue de cytologie et cytophysiologie Vegetales*, 1935, 1, 173-174. (Published by Prof. Guilliermond, Paris.)

² Laugeron, M., *Precis de Microscopie*, Masson, Paris, 1934, pp. 342.

A Rare Instance of Change of Tropism in *Arachis Hypogaea*, Willd.

THE ovary of the groundnut flower, after fertilisation, develops a stalk or gynophore at its base. It elongates rapidly carrying the ovary at the apex which piercing the soil buries the ovary, where it develops into a pod. The structure of the gynophore is almost the same as that of the stem. But, peculiarly enough, while the stem is negatively geotropic, the gynophore is always positively geotropic. This tendency is shown very early even when the gynophore is just a few millimetres long. In 1932, the authors came across a unique specimen of a groundnut plant of A.H. 32—a Spanish Bunch variety, grown under dry conditions (Fig. 1) in which the "pegs" or gynophores exhibited different degrees of geotropism:—14 pods