

specific gravity of the hulls. Although the specific gravity of the hull was found to vary with varieties, it was always greater than that of the whole seed. This explains the close relationship between specific gravity of seed and percentage hull. The high specific gravity of hull and the factors illustrated in Fig. 2 clarify the relationship between high oil percentage and low specific gravity of safflower seeds.

These results will be reported in greater detail elsewhere.

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<sup>1</sup> Official Grain Standards of the United States. *SRA-AMS*, 177, 1959 (U.S. Dept. Agric.)

### Potato Root Eelworm in the Canary Islands

THE European and Mediterranean Plant Protection Organisation annual reports 1953-1959, which survey the incidence of the potato root eelworm, *Heterodera rostochiensis*, record the occurrence of this major pest of potatoes in all member countries except Italy, Yugoslavia, Rumania, Turkey, Cyprus, Malta, Libya and Tunisia.

On December 27, 1960, in company with Sr. Iuan Valladares Barbuxano, Ingeniero Agronomo de la Jefatura Agronomica, I discovered the existence of *H. rostochiensis* in potato fields at La Victoria de Acentejo and in other districts in the north of Tenerife, Canary Islands. At latitude 28° 25' N., this would appear to be the most southerly occurrence as yet recorded in the geographical distribution of *H. rostochiensis* in the Old World.

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### A Technique for Destruction of the Pineal Body using Yttrium-90 Spheres

Excision of the pineal body, first described by Exner and Boerse<sup>1</sup>, has been frequently used in the study of pineal function and has been performed in various groups of animals<sup>2</sup>. Thermocauterization and stereotaxic ablation have also been employed. The operative mortality with the latter methods has been quite high due to hæmorrhage from adjacent blood vessels<sup>2</sup>.

A technique using yttrium-90 spheres for radiological destruction of the pituitary gland was recently introduced<sup>3</sup>. The same source of radiation was used in the present work. The yttrium spheres were manufactured as described by Ginell and Simon<sup>4</sup> and by Ginell and Doering<sup>5</sup>. The activity of the spheres following activation in an atomic reactor was calculated as described by Notter and by Notter *et al.*<sup>3,6</sup>. A 2-3 cm. mid-line incision was made over the occipital region of fifteen rats following anaesthesia which was maintained with ether. A hole about 1.5 cm. in diameter was drilled exactly above the site of the pineal body. The position of the hole had been calculated in relation to the visible sutures between the parietalia and the occipital bone (checked by X-ray photograph, Fig. 1). Three or

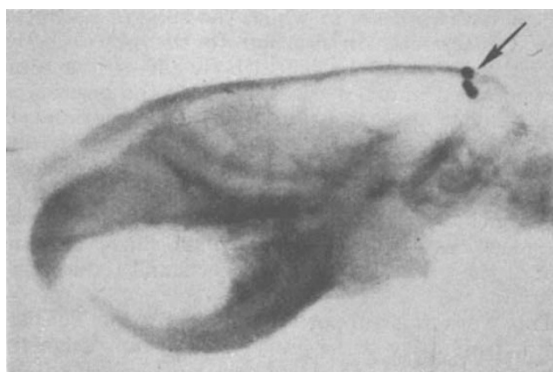


Fig. 1. X-ray photograph of the skull showing the site of the spheres. ( $\times 3$ )

four spheres were inserted on and around the pineal body. Damage to the venous sinuses, which overlie the gland, could not be avoided but the bleeding induced was easily stopped.

Four experimental animals died within 2-4 days following the operation, whereas the remaining survived and were killed on the 15th, 20th and 35th day after the operation. The brains and endocrine organs were then fixed for future examination. A preliminary examination of the irradiated tissue of the pineal brain region showed complete necrosis of the pineal body in eight cases. The radiation dose needed to obtain complete necrosis, provided that the spheres were placed correctly in relation to the pineal body, was calculated as approximately 100,000-150,000 rads, thus causing necrosis at the distance of 1.5-2 mm. from the periphery of the spheres.

No appreciable radiation damage was found in the cortex of the brain adjacent to the pineal body,

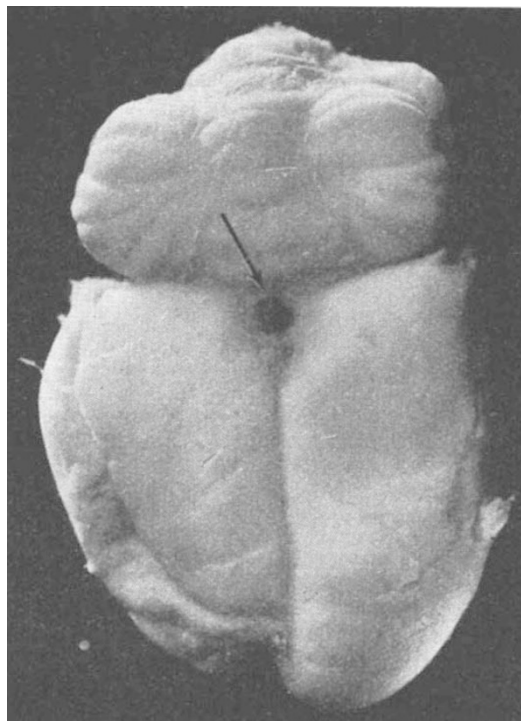


Fig. 2. Dorsal view of the rat brain indicating the position of one of the yttrium spheres. ( $\times 3$ )