NOTE.

ON A PECULIARITY EXHIBITED BY THE TESTA OF WRINKLED PEAS.—During a search for a substitute for the porous pot in the construction of a Pfeffer's cell for the demonstration of osmotic pressure the testa of the pea was selected as being likely to afford a non-extensible membrane in which a film of copper ferrocyanide might be deposited. For this purpose peas, soaked twenty-four hours in water until fully swollen, were cut in half, and from the half of the testa which did not contain the micropyle the cotyledons were removed and the testa firmly tied to the end of a glass tube; this was then filled with copper sulphate solution and the testa immersed in a solution of potassium ferrocyanide.

In place of the expected uniform deposit of copper ferrocyanide over the whole surface of the testa a definite irregular network appeared, the spaces of which remained perfectly colourless. From the character of the network it was at once recognized that wrinkled peas had been employed, and that deposition of the colloid had occurred only at the position of the wrinkles of the dry testa. When round were substituted for wrinkled peas the deposit was perfectly uniform. Clearly, then, there was a difference in permeability in different parts of the wrinkled testa which was not shown in that of the round pea, the depressed parts of the wrinkled pea being quite impervious to the solutions employed, while the wrinkles were freely permeable.

As the wrinkling of the pea testa is a well-recognized Mendelian factor this phenomenon was further investigated. It was found that solutions of sodium chloride had no power to penetrate the parts of the testa which occupied the depressions, and, further, that a solution of safranin stained the soaked testa along the lines of the wrinkles only.

This peculiarity disappeared when the testa was soaked for some hours in warm alcohol, subsequent action of safranin giving a perfectly uniform staining.

The cause of the phenomenon was thus shown to be due to the presence of a waxy bloom on the surface of the testa. This in the case of the round pea easily becomes rubbed off over the whole surface, but in the case of the wrinkled pea persists in those parts which, in virtue of their position in the depressions of the wrinkling, are protected from contact with other peas.

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