

It is so exceedingly powerful that when applied to the eye of a rabbit it rapidly caused marked myosis of the pupil, and when given to animals it has induced effects as dangerous as those of atropia or other agents equally potent.

For therapeutical purposes, it is safer to substitute some of the preparations of the bean.

From the sample before you,—for which I am chiefly indebted to Dr. Fraser, of Dublin, through Dr. F. W. Campbell, and to Dr. Howard,—you may judge of the characters of the bean which contain this active principle. The bean is somewhat like a diminutive kidney in shape, nearly as big again as a common horse-bean. In the dry state it weighs about a drachm, measuring a little more than an inch in length and three-fourths of an inch in breadth. It presents two flat surfaces and two borders, the longer one convex, the other concave. Of these, the convex or placental, as it is called, is the most remarkable. It is indented by a broad groove, which does not run the whole length in one direction, and in the other stops at a slightly raised circle, which is marked by a longitudinal fissure. The edges of the groove are raised, and are paler than the surrounding parts, the bottom usually darker and striped by a pair of parallel lines passing from end to end.

The spermoderm or envelope of the bean varies a little in colour; commonly it is reddish-brown, less often it is cineritious; there are also differences in shade between fresh and dried, young and more mature specimens. The exterior feels rather rough, is hard in texture, not readily sectile, and has a slightly polished aspect. Microscopically, this envelope or integument is resolved into three tunics;—the outer or epidermoid shows rows of columns side by side terminating in clubbed extremities,—the middle, or cellular, formed of piles of starlike cells, becoming more and more condensed as they approach the former,—and the innermost, or dermoid, spread beneath the latter as a basement of dark ligneous membrane.

The kernel is of a cream colour, having an odour compared to that of laburnum seeds, but not having any peculiar taste. It is devoid of bitterness, acrimony, or aromatic flavour. It might be eaten without exciting any suspicion of its toxic power, and if mixed with food would cause no change by which it would be detected. When dry, it is hard, brittle, and easily powdered.

The embryo is of large size, the cotyledons lay close to the inside of the spermoderm, but are separated centrally by a respiratory cell, or space of considerable size, filled with air. It communicates with the outside by a minute chink, which may be shut or not as the sides are closed or opened.