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The internal structure of the kernel has been compared in many inbred lines of pop corn. The probable geographical origin of the four lines reported here has been ascertained by other workers on the basis of gross plant characters. The suggested regions of origin of these lines are as follows: White Hulless, inbred No. 1, Mexican Plateau; Queen's Golden, inbred G10, Western Mexico; "South American", yellow inbred No. 13, South America; Tom Thumb, inbred No. 1, Peruvian upland and Bolivia. Sectional profile of the knernel is narrow obovate in Tom Thumb, broad obovate in White Hulless, and cylindrical in Queen's Golden and South American. The starch distribution pattern is essentially the same in the four lines. Relative embryo size is being studied on the basis of weight. Sections afford only a rough indication of largest relative embryo size in Tom Thumb and smallest embryo in White Hulless. The position of the embryo is a prominent character. Tom Thumb has a narrow embryo situated high and parallel to the side of the kernel. Queen's Golden has a large, broad embryo placed obliquely near the base of the kernel. . . Embryo position in South American and White Hulless is intermediate between the two extremes. No consistent pericarp characters can be reported at present.

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