are slightly elongated and possess a median constriction which gives them the shape of a dumbell (Fig. 7). The two germ pores are situated at the region of constriction. The pollen grains measure 7-8 microns by 3-4 microns. They are shed at three-celled stage (Fig. 8). Dehiscence of the anther occurs at the junction of the pollen sacs. The endothecial cells at this region lack fibrillar thickenings, and the epidermal cells are smaller in size.

The ovary is superior, bicarpellary, bilocular and syncarpous. It becomes four-loculed at later stages due to the development of a false septum. The ovules are anatropous, but due to the presence of a gynobase they are deeply seated in the locules. They are unitegminal and tenuinucellar. The funiculus is long and the ovules are bent in such a way that the micropyle of all the four ovules is directed towards the placenta. A single vascular strand enters the funiculus and branches in the integument; the branches run close to the epidermis of the integument.

In the ovule, the archesporium is usually single-celled (Fig. 10), but a multiple archesporium consisting of two to four cells is also seen occasionally (Fig. 11). However, only one cell functions further and the others degenerate. The functional archesporial cell enlarges and directly becomes the megasporocyte (Fig. 12) which undergoes meiosis and forms a linear tetrad of megaspores (Fig. 13). Usually the chalazal megaspore develops into an embryo-sac (Fig. 14) but occasionally the second or the third megaspore in the tetrad may function further, in addition to the chalazal megaspore (Figs. 15 and 16) which alone finally develops into an eight-nucleate embryo-sac of Polygonum type[2] and the others degenerate (Figs. 17 and 18). The nucellar epidermis degenerates as the functional megaspore enlarges.

A mature embryo-sac is longitudinally stretched. The egg apparatus consists of a pair of synergids which overlap the egg. The antipodals are organized as regular cells. They degenerate before fertilization. The two polar nuclei fuse to form a secondary nucleus only after fertilization.

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DETECTION OF INDOLE 3-ACETIC ACID (IAA) IN SWEET POTATO (*IPOMOEA BATATAS* LAM.)

THE presence of auxin in plant parts has been reported in several annuals and a few fruit plants. Koshimizu and Nishida[1] suggested that growth hormone, synthesised in the sweet potato stem was responsible for root enlargement. Ito and Kato[2] reported that root enlargement of sweet potato was favoured by the supplement of carbohydrate and synthetic growth substances. They reported that the growth hormone concerned in the root enlargement was IAA, which came from the leaves. The occurrence of indole-3-acetic acid (IAA) in the shoot tips of sweet potato is reported in this note.

The growing stem tips were frozen at 0° C. for 24 hr. and extracted with cold peroxide-free ethyl ether. The extract was distilled, the residue was digested followed by separation of chlorophyll. The ether extract was mixed with 5% sodium bicarbonate. The bicarbonate fraction was separated, acidified to pH[3] and re-extracted with ether. The extract was concentrated to 0·5 ml. at 70° C. The concentrated residue was dissolved in small quantities of absolute alcohol and spotted on Whatman No. 1 filter-paper. The chromatogram was ascendingly run in butanol-ammonia-water (100–100–8), for 14 hr. following the procedure of Wright.[3] The paper was air-dried, and sprayed with modified Salkowski reagent [HCl O_4(5%) 50 parts + 0·05 M.$FeCl_3$ 1 part] to locate the auxin. By co-chromatography and matching R_f and colour reaction the auxin was identified as IAA. The results indicate the possible synthesis of IAA in the shoot which might be concerned in the enlargement of sweet potato root.

The author is thankful to Dr. G. Rangaswami, Dean, University of Agricultural Sciences, Bangalore 24, and formerly Dean, Faculty of Agriculure, Annamalai University, under whose guidance the work reported here was carried out.

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