



MULTICELLULAR ARCHESPORIUM IN THREE CULTIVARS OF STRAWBERRY (*FRAGARIA* × *ANANASSA* (WESTON) DUCHESNE)

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The object of the research was strawberry (*Fragaria × ananassa* (Weston) Duchesne) commonly cultivated in the area of Lublin Voivodeship (Poland). Three different cultivars of this species viz 'Senga Sengana', 'Selva' and 'Mount Everest' were investigated with the aim to characterise ovule development in strawberry. Special attention was paid to the formation of the archesporium.

With this aim, fresh flower buds were collected at different developmental stages and fixed them in Navashin fixative (formalin, acetic acid, chromic acid – 3:3:0.5). After preparing paraffin sections (6-8 µm thick) (following the standard paraffin method procedure) the material was stained with aqueous solutions of 1% Safranin-O and ethanol solution of 0,5% Light Green. The stages of ovule development were observed under a Nikon Optiphot II optical microscope.

The data obtained shows that in the three investigated strawberry cultivars the nucelli formation starts in the differentiating ovules

located at the surface of the overgrown receptacle. Longitudinal sections of crassinucellar strawberry ovules on the early stages of development revealed that the most characteristic feature is the formation of a multicellular archesporium. It begins very often from at least two cells which are much larger than the other nucellus cells. These cells are derived in the result of longitudinal division of the original archesporial cell. After series of divisions along the long axis in each archesporial cells, the number of archesporial cells increases and multicellular archesporium arises. Archesporial cells are often surrounded by elongated, lens-shaped nucellus cells. At that time, the nucellus in strawberry ovules is composed of epidermal and subepidermal layers and inner integument is developed at the base of the differentiating nucellus. The investigated cultivars differ markedly in the number of the cells building the archesporium, the number of the archesporial cells which degenerate, and the further modes of female gametophyte development.