

## THE CONSTANCY OF NUCLEOLUS VOLUME MAGNITUDE IN THE MALE GENERATIVE STRUCTURES' CELLS OF WHEAT AND WHEAT-RYE HYBRIDS

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The nucleolei morphological parameters are objective reflection of cell metabolism and the rRNA-genes activities because of their interdependence with main molecular-genetic processes (Челидзе, 1985; Албертс и др., 1994; Архипчук, 1995; Соболев, 2001).

It has been shown at the plant objects, that the size of a single nucleolei is more exact for estimation of nucleolus activity, then total value of a few nucleolei (Архипчук, 1995); at the animal objects the presence of definite program for nucleolei parameters changes during ontogenesis which occurred under genetic control has been demonstrated (Архипчук и др., 1992). The similar data aren't known for male generative structures of higher plants.

The indices of sporogenous tissue cell nucleolei of male generative structures of soft winter wheat (the cultivars Bezostaya 1, Mironovskaya 808, Al'batros odesskii) and wheat-rye hybrids F<sub>1</sub> (Bezostaya 1 x Har'kovskaya 60, Mironovskaya 808 x Har'kovskaya 60, Al'batros odesskii x Har'kovskaya 60) have been investigated; the mentioned forms were different by the signs "the nucleolei quantity in the nucleus" and "the volume of nucleus". The frequency of cells with definite nucleolei quantity didn't depend on age of sporogenous tissue; this is an evidence of non-randomness of fusion nucleolei process. The maternal forms had a great influence on the mentioned signs of F<sub>1</sub> hybrid' cells, as it has been shown before (Бланковская, Трочинская, 2005).

The indices of the average and total volumes of nucleolei in the sporogenous tissue cell nuclei with a single and two nucleolei respectively have been calculated for wheat cultivars and F<sub>1</sub> wheat-rye hybrids (it was used 50 cells for each variant). The mean volume of nucleolus in the single-nucleolus cells was constant and didn't differ from the total mean volume of nucleolei of two-nucleolei containing cells within the bounds of every investigated form of cereals. Subject to possibility of usage of cytometrical parameters for indirect, but reliable estimation of rRNA genes activity, we suggested that such constancy of nucleolus substance magnitude in the cells of sporogenic tissue was an evidence of definite, genetically controlled level of activity of rRNA genes at this stage of ontogenesis.

## ПОСТОЯНСТВО ВЕЛИЧИНЫ ЯДРЫШКОВОГО ОБЪЕМА В КЛЕТКАХ СПОРОГЕННОЙ ТКАНИ У ПШЕНИЦЫ И ПШЕНИЧНО-РЖАНЫХ ГИБРИДОВ

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Попарное сравнение показателей среднего объема ядрышек одно- и двухядрышковых клеток спорогенной ткани мужских генеративных структур как сортов пшеницы, так и пшенично-ржаных гибридов F<sub>1</sub>, показало, что объем ядрышкового вещества не зависит от количества ядрышек в ядре и является величиной постоянной для каждой исследованной формы злаков.