

SUBJECT: VIABILITY OF DUST GRAINS IN SUGAR BEET VARIETIES.

V. Kuliboyev

PhD student Institute of Genetics and
Experimental Biology of Plants of UzRFA
Email-vohid.kuliboyev@gmail.com

Abstract:

The article presents data on the viability of pollen grains of samples of sugar beet cultivars selected as primary parental forms. Studying and researching the viability of plant pollen grains is of great importance in solving many problems of practical breeding. Pollen grains, dust particles (palynology) are grains formed in pollen grains of flowers. It develops from a microspore in a microsporangium. Pollen grains have outer (exina) and inner (intina) membranes. Depending on the type of plant, the shape and size of the dust grains are different.

The flowering period is at the beginning of summer, that is, when the daily temperature is 28-30 °C and the air is at the lowest humidity, the pollen ripens well and the pollination process goes well. The period of emergence of the seed goes well when the weather is moderate and the soil moisture is sufficient. On the other hand, when the weather is dry and hot, ripening happens simultaneously. All development periods require 180-200 days in the first year and 115-120 days in the second year. In the second year of the growing season, sugar beets produce strongly branched buds. The flower is five-sided, small, bisexual, green, pollinated by wind from outside. Seed beets bloom in 50-60 days after planting in the soil, the flowering period lasts 30-40 days. First, the first, then the second, third, etc. flowers bloom on the branches. The flower of the beet is densely arranged in clusters on the plant. When the flower is fertilized, the layers of fruits close to each other grow together and form a node, that is, a bunch of fruits. Each node has 2-7 one-seeded fruits, depending on the number of flowers.

In our experiments, sugar beet varieties Mestnaya, Novella, Diyor, Nimerchanskaya-030, Lara, Onyx, Red Claid, Drujba, Victoria were used. The ripening of sugar beet dust grains develops depending on the characteristics of each variety. The seeds of the varieties planted in the Dormon experimental field of Kibrai district of Tashkent region began to mature as follows. Flowering time was in May-June, the time of pollen grains ripening was in the first ten days of June. The time of the end of the grains of dust is different in varieties, i.e. from 3 to 8 days from the day of ripening of the grains of dust. (Figure 1)





Figure 1. The process of collecting pollen grains in variety samples when they are ripe

Pollen grains collected at the time of ripeness of pollen cells in variety samples were observed under a microscope in the laboratory. (Fig. 2) The purpose of microscopic examination is to determine the percentage of fertilization of pollen cells and to know what percentage of pollen cells are fully developed.

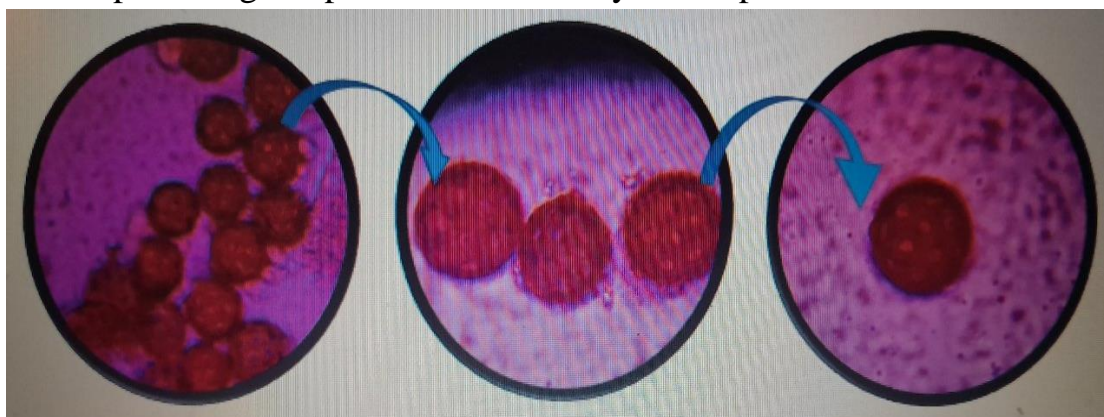


Figure 2. Microscopic appearance of sugar beet grains

Chemical dyes can be used to determine whether pollen grains are viable or sterile. The acetocarmine method was used to determine the viability of pollen grains. To see the pollen cells, the pollen grains collected from the varieties were first stained and then examined under a microscope. When the varieties were viewed under a microscope, the pollen cells were found to be suitable for fertilization at a rate of 92% to 98%.



List of used literature.

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