

Dr Karl Ivanovich SOLDATOV

Over 25 years period (1965-1990) Dr. K.I. Soldatov conducted breeding studies in oil crops. He was the leader of the research in the chemical mutagenesis of sunflower with the objective to use this phenomenon for breeding purposes.

He has studied the main peculiarities of variability and heritability of the useful economic traits in sunflower induced by the mutagenes. He has developed the initial breeding material with different useful economic traits. Also he has developed the methodology of the use of the chemical mutagenesis in oil crops breeding.

In the field of sunflower breeding Dr. K.I. Soldatov has important practical achievements. He has developed the unique variety of sunflower named Pervenets (First-born) which varies from other sunflower cultivars by high content of the oleic acid in the oil (70-75% compared to 25-30% of common cultivars). Due to this fact the sunflower variety Pervenets is one of the crops which provide us with the best food oil which almost doesn't differ from olive oil by correlation of main fatty acids. For the first time the sunflower variety with such traits has been developed.

In 1977 the sunflower variety Pervenets was released and occupied the acreage of about 80 000 ha in Krasnodar Region. On the base of this variety the oil and fat industry of the USSR began to produce a new food product named Kuban Oil for Salades. This oil received a high appraisal of the experts of the Institute Pitaniya AMN USSR and VNII of fats. The Committee of Experts of Gosplan of USSR recommended this oil for the use as the substitute of the imported olive oil.

The oil obtained from "Pervenets" is much in demand in the production of canned fish and canned vegetables, cosmetics creams. It is used in children's dietetic nourishment and in the medical industry for production of preparations of fat-soluble vitamins etc.

The sunflower variety Pervenets is recognized all over the world and it is used by breeders of many countries (USA, France, Slovenia etc.) as a donor in the development of high oleic acid hybrids of sunflower. At present about 20 hybrids of this type have been released only in european countries. On the base of "Pervenets" a new resistant to broomrape high oleic acid variety Kruiz and the hybrid Krasnodarski 885 have been developed in VNIIMK. The above cultivars have passed well the state variety commission trials and then they have been released in Russian Federation.

As a result of subsequent studies on increasing oleic acid content in the oil Dr. K.I. Soldatov has developed the initial breeding material which had approximately 90% oleic acid content, what is close to the biological possible limite.

Thus Dr. K.I. Soldatov is an ancestor of a new direction of sunflower breeding in the world focused on the alteration of the fatty-acid composition of the oil.

The results of the research on the development of a high oleic acid sunflower have been reported at the 6th International Conference on Sunflower in 1976 and at 14th International Congress (Moscow, 1978). Also they had been published in scientific and popular-scientific literature.

General Director of VNIIMK



V.P. Brazhnik