Georgiy Dmitrievich Karpetchenko Biography

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Biography

G. D. Karpetchenko produced the first fertile **hybrid** of two different genera in 1929 with his cross of a radish and a cabbage. Most interspecies crosses are sterile because of **chromosome** sorting problems during **meiosis**. Karpetchenko solved this difficulty by doubling the chromosomes in the egg and pollen (the gametes) of the plants. The resulting offspring, with four sets of chromosomes, were tetraploid and therefore produced **diploid**, fertile gametes. Organisms with more than two sets of chromosomes are known as polyploid; when the sets of chromosomes differ, the situation is known as allopolyploidy. Although polyploidy is usually lethal in animals, it is tolerated to a much greater extent in plants and has become a central technique in producing inter-species plant hybrids. The achievement brought Karpetchenko international fame.

Karpetchenko was one of the most prominent victims of **Lysenkoism** in the Soviet Union. An outspoken critic of Soviet agriculturist T. D. Lysenko's (1898-1976) theory of intravarietal hybridization, Karpetchenko had joined other leading Soviet geneticists, including N. I. Vavilov (1887-1943), in writing letters in defense of **genetics** to members of the Communist Party. Lysenko aimed his harshest criticism at the All-Union Institute of Plant Breeding in Leningrad (now St. Petersburg), where Karpetchenko was the Director of the Laboratory of Genetics. Karpetchenko was arrested on 15 February,1941, after Vavilov, arrested in 1940, was forced to name him as a co-conspirator in "anti-Soviet activities." After a hurried trial, Karpetchenko was executed by a firing squad on 28 July, 1941. His scientific reputation, along with the reputations of many other Soviet geneticists, was rehabilitated in 1955.