

World Collection of Cotton

KHAKIMJON Saydaliyev, ALISHER Amanturdiyev, MALOXAT Halikova

(*Institute of Genetics and Plant Experimental Biology, Uzbek Academy of Sciences, Tashkent Region, Kibray District, 111218, Uzbekistan*)

Achievements of selection and other theoretical researches on cotton not only in our country, but also world-wide depend on the presence of genetic resources. Uzbek Scientific Research Institute of Selection and Seed Growing of Cotton is a leading center of science on breeding and production of cotton across Central Asia. In this institute there is the most valuable world collection of cotton, numbering more than 12100 samples received from more than 107 countries of the world. Some representative of wild and feral cottons have already disappeared or are on the verge of disappearance in their native habitat. Therefore, it is extremely important to preserve and maintain the purity of the cotton accessions that represent not only the most valuable object for scientific researches and practical selection, but represents the history of world cotton growing. Thus, it is necessary to continue efforts to obtain of new samples from abroad by the organization of expeditions and exchange of seeds from other countries. The basic sources of updating of collection are such countries as USA, Mexico, India, China, Australia, Turkmenistan, Tajikistan, Egypt, Brazil, Israel, Peru, Pakistan, Iran, and others. Samples of the collection are under regular evaluation, description, and phenotypic observation. Records of the major biological and economically valuable attributes, productivity, and laboratory analyses of fiber properties and features of seeds are maintained. The best samples from the world varieties, differing by precocity, productivity, high qualities of fiber and other economically valuable attributes, steady against race of wilt are widely used by selectors in hybridization at identifying wilt resistant cultivars of cotton, levels of gossypols in seeds, high content oil, resistance to black root decay, and resistance to water stress and salinity.

On the basis of the recommended accessions, for example, *mexicanum* (02758, 02256, 02751), *punctatum* (02672, 02684, 05152, 06592), *purpurascens* (02800), Acala 4-41, Acala M1, Acala SJ-1, Acala SJ-2, Selection Composite, and others, a number of cultivars and lines were created; Namanagan 77, -6524, -9070, -4910, -6530, Tashkent-6, Fergana-3, -2609, Omad, Akkurgan-2, Kkurgan-3, Uran, and others, being now in manufacture, division into districts or testing. Stability of collection material to wilt is widely used. Sources wilt resistant Acala SJ-5, Deltapine 80, Acala 1517-70 are allocated. It is studied wilt resistant wild forms of sort *Gossypium*. Also their differentiation on races is revealed. Sources of stability is suggested to race 1 - *G. harknessii*, *G. thurberi*, to race 2 - ssp. *yucatanense*, *G. thurberi*, *G. aridum*, ssp. *punctatum*. Character of intraspecific mutual relations of kind *G. hirsutum* L. is studied. Within the limits of its versions on the basis of their hybridization among themselves and with industrial cultivars of foreign selection, the best results are received from crossing foreign cultivars Acala 1517-70, Paymaster 266, Deltapine 16, Delcott 277 with selections of *yucatanense*, *punctatum*, *richmondi*, *morillii* that created new economically valuable traits.