

Bengal Gram – Chickpea (*Cicer arietinum*) $2n = 16$

The most important pulse crop India is the largest producer of chickpea in the world.

Origin: According to Vavilov (1926) – S.W. Africa and Mediterranean region
Later, Vander Maesun (1984) – Turkey and Syria

Distribution: India, Pakistan, Mexico, Turkey, Ethiopia, Burma and Maynmar. In India M.P.

U.P. Rajasthan, Haryana accounts 75-80% of the India's production other states are Maharashtra,

Bihar, West Bengal and Andhra Pradesh.

Progenitors :

Cicer bijugumechinosperrum *C. reticulatum*

Genus *Cicer* has 49 species, out of these nine are annual and forty are perennial

Breeding Objectives:

Increased seed yield

Increased biomass, tall, erect and compact cultivars

Resistance to diseases like *A. blight*, *Fusarium wilt*, Root rot, Botrytis grey mold.

Resistance to insect pests – Pod borer

Tolerance to stress environments

a) Cold b) Heat c) Drought d) Saline and Alkaline.

Plant type in chickpea

Compact plant type

Medium tall are preferred

Optimum number of primary and secondary and minimum number of tertiary branches

Photo thermo sensitiveness

Determinate growth habit for harvesting uniform produce

Well developed nodules

Breeding procedures:

Pedigree method: for resistance breeding (disease, insect, nematode, orobanche spp)

Modified bulk method : for stress situations (drought, cold, heat, iron deficiency)

Back cross method: for interspecific hybridization. Limited backcross (one or two) for desi x kabuli introgression and also for resistance breeding. Resistance to fusarium wilt can be easily transferred from desi to kabuli type

Somaclonal variation: through plant tissue culture appears to be a potential tool for generation and exploitation of useful variability.