Male sterility, although, has been observed in other species of Mentha but it is not so frequent as in M. longifolia. In M. longifolia the stamens are very rudimentary and do not contain any pollen grains. M. arvensis var. javanica growing wild near Tangmarg along irrigation channels in Kashmir Valley is also found to be male sterile. It is interesting to observe that the whole population growing there, is male sterile. The stamens have normal anthers which do not burst open and only turn brown at later stage. Archesporium does not develop into pollen mother cells and pollen grains are not formed.

The phenomenon of male sterility which exists in the genus Mentha as a whole and is common in M. longifolia, makes the cross pollination between different species quite easy and frequent. The facts that the genus Mentha is completely entophilous and there is existence of male sterility in the genus, are responsible for the interspecific hybrid met so often in the genus which has made the work of the taxonomist very difficult to classify them properly. Some of the natural hybrids such as M. piperita which has been under cultivation from ancient times and has been given specific name, arose in nature and has since only existed in cultivation or as escape from cultivation and
is propagated only vegetatively because no seed is formed or a few seeds are formed that too very rarely.

*Mentha mulleriana* which is a natural hybrid between *M. arvensis* Linn. 2n = 72 and *M. rotundifolia* 2n = 24 also has not got the anthers properly developed and is male sterile.

The population of *M. longifolia* (Linn.) Hinds. growing along the canal from Akhnoor to Jammu was studied in detail. In *M. longifolia* (Linn.) Hinds., there are met five types of plants as for the size of the stamens is concerned.

1. Plants bearing flowers with stamens protruding and fertile.
2. Plants bearing flowers with a few stamens protruding in small number of flowers. In rest of the flowers the stamens are only at the mouth of corolla tube or within the tube. Stamens are fertile.
3. Plants bearing flowers with stamens only up to the mouth or within the corolla tube and are fertile.
4. Plants bearing flowers with stamens within the corolla tube and are rudimentary i.e. they do not develop fully. Anthers are brown shrivelled and devoid of any pollen grains.
5. Plants bearing flowers in which the anthers are absent and filaments are small and very rudimentary.
In the population that I studied, there were met 46 plants with hermaphrodite flowers and 23 plants with male sterile flowers. Out of 23 male sterile plants, three plants were such in which the stamens were completely absent and 20 remaining plants had rudimentary stamens only. Out of 46 plants with hermaphrodite flowers, 17 plants had purple spotted corolla and 29 plants had white corolla. Out of 23 plants with male sterile flowers, 12 plants had purple spotted corolla and 11 plants had white corolla.

The male sterility in Mentha appears to be due to interaction of genotype and cytoplasm as reported for Linum usitatissimum Linn. by Chittenden and Pelloe (1927); Allium cepa by Jones and Clerk (1943); Beta vulgaris by Owen (1945); Sorghum vulgare Pers. by Stephens (1954); and several other plants.