In the improvement of the close-fertilized cereals by hybridization, the pure line or pedigree method is used most commonly. By this method the individual plants of the different families in each generation may be studied. Often after the F₂ generation only the individual plants of the best families in each generation are subjected to close scrutiny. Clearly the amount of material that may be carried in this way is limited by the time and funds at the disposal of the plant breeder. In the present extensive search for superior individuals it often is advantageous to grow a comparatively large number of combinations so as to increase the chances for obtaining superior types. In order to do this it becomes necessary to make use of some method which will economize the time of the worker and yet make reasonably certain that the desired plant material may be preserved for selection.

Such a method of handling was devised by Nilsson-Ehle and his associates at the Swedish Plant Breeding Station at Svalöf. The method was described by Newman (6) in 1922. It consists essentially of the creation of populations by hybridization or crossing, growing these in bulk or "en masse" for six or eight generations, and then making hand selections for comparative testing. During the growing of the hybrid generations, artificial selection toward a definite type usually is practiced, thus eliminating weak and undesirable plants. At the end of this time individual plant selections are made and tested in the usual manner of conducting selection experiments.

The method described by Newman was further called to the attention of plant breeders by Babcock and Clausen (2) and later by Hayes and Garber (4) and by Bauer (3). The "population" method (1), or the "bulked-population" method, as it will be called in this paper, is used to some extent by plant breeders in the United States, and according to Dr. R. E. Clausen (verbal statement in 1928), it is being used extensively by commercial seedsmen in Germany and to some extent in other parts of Europe.