B-09 Efficiency of selection for yield in Sesame (*Sesamum indicum* L.)

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Five Segregating sesame populations arising from single crosses involving parents of diverse origin were subjected to 5 selection procedures in the F_2 - F_5 generations. The 16 best lines from each method were field tested in F_6 and F_7 with MI3 variety as control in a randomized complete block design with 4 replications. Separate experiments were conducted for each method. Considering 2 seasons means as well as the performance in each individual season, the bulk method and the cross involving the local cultivars produced the highest number of lines giving yield in excess of control. The cross involving 2 exotic cultivars did not produce a single line superior to MI3 variety. The grand analysis of data from all 5 experiments indicated highly significant

seasonal and population effects. There were no significant differences among the methods of selection although the yield differences among the lines were highly significant. Interactions of seasons x populations, seasons x methods, populations x methods and seasons x populations x methods were highly significant. The results indicate that the simple and less expensive bulk population method may be used with equal or greater success than the pedigree, single seed descent, early generation testing or single hill procedures when selecting for yield in segregating sesame populations. It was also revealed that the inclusion of a high yielding locally adapted cultivar in the crossing programme is also important to isolate genotypes with superior yield performance.