

Developing breeding populations with adequate genetic variability is requisite for the success of breeding program. Work done in this direction can be evident from maize since both cross and self pollinations can be made easily in this species. Therefore, several cultivars are combined to form genetically broad base populations. Long term recurrent selection has always been used to improve quantitative characters in maize. In soybeans difficulties in making the cross pollinations have restricted the number of cultivars in their breeding populations. Consequently, crossing two pure-line cultivars is practiced and the populations have narrow genetic base. Chance to obtain high yielding lines from soybean populations are thus less comparing to maize populations. This research project is aimed to develop soybean breeding populations with varying degree of genetic base and testing the effectiveness of recurrent selection on increasing high yielding lines in these populations. To fulfil the objectives fourteen cultivars were chosen to be parents in the two-way, three-way, and double crosses. Thirty-two soybean breeding populations were developed during 1988-1989. Among these populations, ten were developed from two cultivars, eight from three cultivars, nine from four cultivars, and five arose from five cultivars. During 1991 dry season F_4 seeds from each population were space planted in the field. After harvest, seed yield of individual plants from each population were determined. Seed progenies from the high yielding genotypes were selected as the parents in the following crosses to form the populations for the next cycle.