EVERY grass breeder recognizes that the improvement of forage plants, particularly for pastures, presents some unique problems. One of the foremost of these is that pastures generally do not consist of a single species, but rather of a more or less random association of more than one species. The question which arises is, Can satisfactory progress be made in forage plant breeding by considering a single species, independent of the others with which it is to be intimately associated during growth for ultimate use? No doubt every grass breeder has pondered this question. The full answer is not known.

Myers and Garber (5) recognized the importance of associated species. They gave clonal blocks of Kentucky bluegrass, Poa pratensis L., a blanket seeding with white clover, Trifolium repens L. In like manner, Atwood and Garber (2) cloned white clover and gave their plots a blanket seeding with Kentucky bluegrass.

Ahlgren, Smith, and Nielsen (1) have recently reported essentially no relationship between selections of spaced plants of Kentucky bluegrass and their behavior in mass seedings with white clover. Thus, in Kentucky bluegrass selection among spaced plants (grown in pure stands) of those expressing superior vigor gives little more than a random sample of the strain as regards its behavior under the conditions of ultimate use. This is a severe indictment of the value of selecting plants to be grown in mixtures from spaced stands of a single species.

In the initial step all the above investigators selected less than 1% of their material for a starting point. This was necessary because cloning requires time and consumes space.

The present paper outlines the essentials of a method by which an attempt is made to approximate in the breeding nursery competition between species such as occurs in pasture plantings. The method consists of placing plants of more than one species in close association with one another under a systematic arrangement. It provides an opportunity for selection of superior individual plants based upon performance under competition. The identity of individual plants is preserved and an attempt is made to equalize the environmental forces affecting their development. Several such plantings have been made on the grounds of the Utah Experiment Station. Since