WITH the advance of experimental ecology, our knowledge of the phyto-climatic conditions bearing upon plant formations has also progressed. From the agri-ecological standpoint, plant-climate relationships have been studied by what might be termed the "macro" and "micro" methods of analysis. The macro method consists essentially of investigations into the regional distribution of the plant communities in relation to environment, while the micro methods have had to do with recording of the small changes that the plant reciprocates to the fluctuations of environmental variables. As such, a micro analysis of the specific changes in the density of the vegetation over a small area during the course of a season may give a correct idea as to the amount and nature of reciprocation of the plants to environment.

The greater possibility of homogeneity of the edaphic factors in a cultivated field has been taken advantage of to study the changing density of weed flora during the course of the "rabi" season. But changes in density, comprising as it does the two opposite phenomena of the germination of some seedlings and the decay of others, cannot altogether be associated with the ecological factors since the physiologic complex of the weed species cannot be overlooked. It may not be possible, therefore, to arrive at any conclusive correlation between the incidence of winter weed species and changes in the climatic factors because of the marked periodicity of germination shown by most of the weed species.

Brenchley and Warington (1, 2), during their extensive observations on the weed seed population of arable land, found that most of the species showed a definite periodicity of germination. They found further that under intensive methods of cultivation weed seeds in the soil appeared to have a period of natural dormancy as opposed to dormancy induced by unfavorable conditions. During this period of natural dormancy, the length of which varied with different species, the weed seeds did not start into growth even when placed under conditions favorable for germination.

Raunkiaer (5) has drawn attention to the important factors determining environment which ultimately expresses itself in the nature of the predominant flora. Of all the conditioning variables, he lays chief stress on temperature and precipitation. Recently, Warington (7), investigating the effect of constant and fluctuating temperatures on the germination of weed seeds in arable land, pointed out that the seasonal periodicity in germination evinced by several species is apparently due to temperature conditions though not