FACTORS INFLUENCING THE GERMINATION OF SEED OF TRIFOLIUM REPENS

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WHITE clover (Trifolium repens L.) when grown in the Southeast usually behaves as a winter annual. In early summer, after producing seed, most of the plants die and the seeds remain dormant until fall or early winter. The seeds then germinate, the seedling plants make their main growth in early spring, produce seeds, and die, thus completing their life cycle.

It has been observed that white clover seed planted early in the fall becomes established quicker and can be pastured earlier than white clover which has reseeded naturally. In average seasons white clover is a valuable source of winter pasturage in Florida and south Georgia, and since the earlier it becomes established the earlier it can be grazed, some men are making light seedings of commercial seed early in the fall instead of waiting for volunteer seedings to produce a stand. Since in unusually dry or very cold seasons these early seedings fail to survive or produce little if any winter pasturage, the practice of making early seedings involves certain risks which many men will not care to take. These observations indicate that a strain of white clover producing seed 20 to 30% of which will germinate early in the fall from natural reseedings may prove valuable in this area.

MATERIAL AND METHODS

In an effort to determine whether or not such strains might be present in the white clover breeding material at Tifton, Ga., seed was harvested from 93 plants, the strain-building progeny of 17 selections, in the first week in June, 1939. These seeds were stored at room temperature until August 9, 1939, when scarified (scarified uniformly with sandpaper) and unscarified seeds of these plants were germinated at 10°, 20°, and 30°C, approximate mean winter, fall, and summer air temperatures, respectively, at Tifton, Ga.

One hundred seeds of each treatment were germinated in miniature "rag-doll" testers made of paper towelling labelled with India ink. The germination tests on

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