INCREASED production of pasture and forage crops in the Southeastern United States has been accompanied by a corresponding rise in harvesting, processing, and storage of seed from these crops. If seed of high viability are planted, it is necessary to know how to cure and store these seed. Little is known concerning the behavior of seed during curing and storage under Southeastern climatic conditions.

Research pertaining to curing and storing seed was begun in 1947 at the Alabama Polytechnic Institute Agricultural Experiment Station, with some results being published in 1950 (1). This paper presents data on the hygroscopic equilibrium of the Auburn Reseeding Strain of crimson clover (*Trifolium incarnatum* L.) and its relationship to the viability of naturally and artificially dried seed.

Several workers have shown the importance of the hygroscopic equilibrium curves in determining behavior of seed during curing and storage (1, 2, 9, 11). Hygroscopic equilibrium data may be used to show the following:

1. The seed moisture content expected after curing in a known atmospheric relative humidity.
2. The relative humidity of the air contacting the seed of a known moisture content.
3. The changes in seed moisture content with fluctuations in relative humidity of the surrounding atmosphere.
4. The critical seed moisture content and the corresponding relative humidity for maintaining seed viability during storage can be predicted from the hygroscopic equilibria accompanied by germination data.

Curves of the hygroscopic equilibria of various seeds were summarized by Stahl (11). A recent review of the literature was given by Oxley (9), and by Brewer and Butt (1). According to these workers, the data obtained by plotting hygroscopic equilibrium data for relative humidities were of the sigmoid type. Oxley and Brewer state that some workers have considered these curves to be parabolic. Parabolic curves were obtained by the methods of saturated salt solutions and the electric hygrometer (1). Organic substrates, such as textiles, feed, and seed that contain hygroscopic moistures in equilibrium relative humidities and above, have been susceptible to mold deterioration (8, 3).

Studies with wheat in bulk storage have established that the relative humidity of the interstitial air is dependent on the moisture content of the wheat (5, 6). The air-seed equilibria reached in bulk storage can be predicted from hygroscopic equilibrium curves for a particular seed. Such curves can be used as a guide in storing seeds at moisture contents that result in interstitial relative humidities below that required for mold development. At such moisture contents, losses in germinability are avoided.

**PROCEDURE**

Crimson clover seed of the Auburn Strain, combine harvested in May 1950, were used in these studies. Hygroscopic curves were based on data obtained by the method of saturated salt solutions and the electric hygrometer (1). In the saturated salt solutions method, the seed were suspended over the salt solutions in shallow screenwire baskets. Seed and salt solutions were enclosed in sealed glass desiccators. The relative humidities of atmospheres in contact with saturated solutions...