PLANT BREEDING OPPORTUNITIES WITH PASTURE AND MEADOW PLANTS

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The improvement of pasture and meadow plants by breeding is without doubt one of the most neglected fields in the agronomic research program. No one is to blame for this because there has always been a greater demand for research with cash crops such as corn, wheat, and other grains. When experiment stations were established most of the grain fields of the present time were covered with grasses and trees. Little agrostological research was needed because there was plenty of pasture and hay. Then, too, the many species used in pastures and meadows seem to have more or less overwhelmed investigators and they scarcely knew where to begin. Such factors as the small inflorescence, the non-individualistic growth habit, the long time involved in accomplishment, and the lack of specific knowledge concerning these small-seeded grasses and legumes have played their role in this neglect. It is always difficult to change the old regime. It is so easy to follow in the research groove of our forefathers.

Many worthwhile fertilizer, tillage, and cultural experiments have been conducted with pasture and meadow plants, but the actual plant breeding activities have been limited.

The problems brought about by the necessity of regrassing lands as an aid in programs of erosion control, land utilization, grain reduction, etc., have created a distinct need for more knowledge concerning pasture and meadow crops. This need is a challenge to the agronomic investigators of the United States that can and will be met.

Some very excellent starts in agrostological research have been made in the United States, Canada, and especially in Europe. Special note should be made of this because failure to recognize it would be inaccurate and grossly unfair, but it will be the purpose of this paper to hold rather closely to the subject of breeding opportunities and not to discuss literature.

THE ADAPTATION OF GRASSES AND LEGUMES

While the common native and cultivated grasses and legumes are found rather generally over the country as a whole, careful observation shows that most of them have a rather distinct adaptation to particular habitats. This point is quite significant. It probably means that breeding operations must be limited to comparatively small areas. For instance, facts determined by Dr. Kirk in Canada with Alpha sweet clover may not hold true for the central corn belt of the United States. The strains of clover and grasses selected by Dr. Stapleton and his co-workers at Aberystwyth probably will not suit...