

phosphate is very significant. It is believed that Japan clover may have a large place in mixtures on many types of soil.

Clover. A continuation of the studies regarding the effects of height and time of clipping sweet clover on growth and mortality has shown that for maximum growth during the second year, the first year's crop, if made into hay, should be cut not earlier than late summer or early fall. Midsummer cutting the first year appears to reduce the second year's growth by one-third. However, in a year of normal weather, it does not appear that the plants are actually killed by any cutting the first year except indirectly thru the heaving of weak root systems during the winter. During summers of abnormal rainfall, it appears that some deaths may occur among plants that have been cut during midsummer.

Fixing Free Nitrogen Experiment. The striking effect of associated sweet clover growth in promoting growth of bluegrass, shown on the plots in this experiment last year, has continued in the bluegrass growth of this year. Sweet clover growth was prevented on the plots this year, so the effect is a residual one from last year. The four plots supporting a sod growth were clipped May 28 and the following weights of grass removed:

Average of air-dry weights from plots 2 and 5 which have grown bluegrass only	2330 grams
Average of air-dry weights from plots 3 and 6 which grew bluegrass and sweet clover last year and bluegrass only this year	6410 grams
(The plots consisted of one square rod each)	

Sulfonation in Soils. Laboratory experiments have been started to test the sulfonating power of some thirty or more new samples of soil from different parts of the state, representing all the principal geological divisions. Of seven soil samples tried last year, the addition of calcium carbonate increased the oxidation of added sulfur in all except one and seemed to retard or prevent sulfonation of sulfur compounds originally present, in four. The suggestion is that in some soils a sulfonating organism predominates which thrives under alkaline