WHITE clover, *Trifolium repens*, is the most common and most important legume in lawns and permanent pastures in Ohio. The value of white clover in a bluegrass sod is generally recognized but is indicated more specifically by the results of an experiment at Ohio State University, in cooperation with the Ohio Agricultural Experiment Station. In this experiment with plots in six replications, the average yields for the 3-year period 1937-39 were 1,182 pounds of dry matter and 213 pounds of protein per acre for Kentucky bluegrass alone, and 4,093 pounds of dry matter and 958 pounds of protein for the mixture of Kentucky bluegrass and Louisiana white clover. (See Fig. 1.)

On the plots without clover in the above experiment, nitrogen became a serious limiting factor and responses to the mineral fertilizer were unsatisfactory. It would require 596 pounds of a 20% nitrogen carrier per acre annually to supply the difference between the nitrogen removed in the herbage from the Kentucky bluegrass-Louisiana white clover area and that removed from the Kentucky bluegrass area.

Not only does the white clover increase the yield and protein content of the herbage, but it has proved very effective as a means of weed control. In the experiment above referred to, during 1938 and 1939, weeds occupied 33% of the ground area of the Kentucky bluegrass plots and only 5% of the Kentucky bluegrass-white clover plots (Fig. 1). The sod of all the plots was uniform in character in the spring of 1937 at which time white clover was seeded on the established sod of the plots so designated.

A consideration of these results leaves little doubt concerning the desirability of a program of treatment and management that will maintain a high content of white clover in the pasture.

Some lawn owners object to anything but grass in a lawn, but if it is possible by encouragement of white clover to reduce the weed content of the lawn, thicken the sod, and enrich the color, the objections are not truly valid.

In the light of these facts, it is highly desirable that more information be obtained about the factors responsible for the irregular distribution of white clover in the state and the great fluctuations in its prevalence in the same sod areas from year to year. Once the white clover disappears, considerable time may elapse and considerable loss in production may occur before it becomes re-established. If all factors were understood, it is possible that the disappearance might be prevented at a lower cost than that imposed by its absence and re-establishment.

**FLUCTUATION OF WHITE CLOVER IN SOD AREAS**

Occasionally, we have what is commonly known as a “white clover year” in which this plant is prevalent in many permanent sod areas. In another year or two it is gone. In some locations white clover is always absent, in others it is never found.

It is the object of this paper to present observations on factors affecting these variations. Investigations of various phases of the problem have been reported before by a number of workers, including Brown (1) of Connecticut, Robinson and Pierre (5) of West Virginia, Jones (4) of England, Hein (2) of the U. S. Dept. of Agriculture, and Johnston-Wallace (3) of Cornell. Yet there are many factors not now understood. Furthermore, these factors do not always function in the same manner or to the same degree in different locations.