OATS in Florida are used for both grain and grazing. Grazing is more important; almost 80% of the acreage planted to oats is harvested entirely by grazing. A portion of the other 20% is grazed to some degree before being harvested for grain.

Because of the importance of oats as a grazing crop, more emphasis in the breeding program is being placed on developing a variety to produce more "forage". For an efficient program of this nature, effective, dependable techniques are needed for evaluating the "forage" production of breeding lines. Because of limitations on seed, land, cattle, labor, etc., clipping is commonly used to simulate grazing.

Optimum plot size required to evaluate breeding lines by clipping is as yet unknown. Although a large number of experiments designed to determine optimum plot size have been conducted, none has been conducted with small grains for "grazing" production. Therefore, the experiments reported here were designed to determine optimum plot size for small grain clipping experiments.

**REVIEW OF LITERATURE**

Since the beginning of field plot experiments, research workers have been interested in determining optimum plot size. This interest is stimulated by the relatively high costs and time required to conduct field experiments. Cochran (1) reported on 134 tests, largely "uniformity trials" in which the crop was harvested as a number of small plots. By combining data for adjacent units, yields from plots of different sizes and shapes can be determined and their variabilities compared.

In uniformity trials when units to make up a plot are drawn at random, the variance of the plot mean is $V_m = \frac{V}{n}$, where $V_m$ represents the variance of the mean of $n$ contiguous units, and "b" is an index of the efficiency of additional sub-units to reduce the variance. Smith (6) proposed the relationship $V_m = \frac{V}{n^b}$, where $b$ represents the variances of the mean of $n$ contiguous units, and "b" is an index of the efficiency of additional sub-units to reduce the variance.