INTRODUCTION

Control measures against diseases and/or insect pests generally exploit one or more phases in the course of the disease or in the life-history of the insect pest. In like manner, control measures against weeds ought to exploit to advantage the phases of weed succession.

The control of weeds may be cultural, biological or chemical and in each case, knowledge of their successional march may be necessary in order to devise or modify the means of control. Literature suggests no trend towards this end (in the tropics) and Adames (1940) suggests lack of knowledge of the local flora as a partial reason.

The writer considers the main reason to be due to the fact that researches into chemical and biological control of weeds have often been successful without a planned study of succession. The vein of thought, though never expressed, seems to be that a study of succession, the results of which may have limited universal application is , unfortunately, a mere academic exercise.

Weeds are an induced vegetation - an expression of man's interference with, or destruction of, the original climax. The problem of finding out how long plants take to rejuvenate and what conditions may hasten or retard the process, involves a thorough scientific study. "Ecology", according to Livingston (1935), "must logically include cultivated forms and weeds in its purview".

The use of chemicals in weed control has many practical limitations. McCall (1954) states: "Within a certain species of weeds varying degrees of tolerance to herbicides used are being developed. Most cases of 'acquired' tolerance have involved 2, 4-D (2, 4-dichlorophenoxyacetic acid), but certain grasses formerly regarded as being easily killed by T.C.A. (Trichloroacetic acid), are now showing marked resistance to these chemicals".

The distribution of weeds on arable land is connected with certain conditions (climatic and edaphic) for growth. Weed communities, therefore, can be used as indicators of the agricultural value of the soil. Kooper (1927) states that pioneer communities are better indicators than later successions.

Weeds compete for moisture, nutrients and light, and may increase the degree of the susceptibility of crops to pests and diseases by acting as secondary hosts. Weed species that are likely to assume host functions and greater competition to the crops require greater knowledge in the field of applied ecology.

The removal of weeds is the chief function of cultivation, other aspects such as soil structure being less important. Vigorous growing weeds may provide soil with cover and minimise erosion. Selective weed control requires an ecological study.

The present investigation was carried out with these problems in view. It was not more than an attempt to assess succession within the time at the writer's disposal and with such literature as could be had to base the study on.

The concept of area is implicit in the term "cover" and it is necessary to warn the reader that in this study cover was given in linear measurement. The normal practice is to convert line transect measurements to percent cover. This was not done because (a) % cover figures cannot be used in the statistical analysis, (b) % cover figures varied little from linear readings and (c) direct interspecific comparisons could be made on linear basis.