INTRODUCTION

Life would not be conceivable without nitrogen. All vital processes in the plant are associated with the presence of a functionally reactive plasma in the proteins of which nitrogen is present as a characteristic constituent. In addition, nitrogen is present in many other compounds which are of great physiological importance in metabolism, such as chlorophyll, the nucleotides, phosphatides, alkaloids as well as in many enzymes, hormones and vitamins.

In order to obtain the full effect of nitrogen fertilizer treatment it is not only important to supply the correct fertilizers in the correct quantities but also to supply the nutrients at the proper time, and this is particularly important in the case of soils with a low nitrogen content and with crops whose nutrient requirements are restricted to definite periods of this time. This subject is of great value. For this reason it is necessary to study nitrogen requirements at various stages of growth of plants. This problem received a great attention in the field of plant nutrition, and now there is an agreement between all workers that it is generally desirable to have the large amount of nutrient elements in the soil solution at the commencement of the plants growth life, but that it is unnecessary to mention this condition during later stages of growth.

In Egypt, wheat is considered as one of the most important crop$, as far as food production is concerned. It is one of the cheapest source of food for human beings on most of the world. The wheat cultivation is progressively increased in the U.A.R. until it reached about 1.8 million feddan in 1953 - 1954, which estimates more than one third of the total cultivated area. Production of wheat in Egypt through the season 1961-1962 was 9, 572, 840 ardabs, (ardab 150 Kgm).

The aim of the present work was to study nitrogen requirements of wheat plant at various stages of growth, and the effect of such treatments on both growth and yield, as well as on nitrogen and phosphorus content in the various parts of the plants grown in sand culture.