INTRODUCTION

Fertility in farm animals, has a close relationship with nutrition, and the probability that animals or population of animals might encounter estrognic substances in plants is high. In an extensive review article, Bradbury and White (1954), listed estrogenic activity in more than 50 species of plants. Farnsworth, Bingel, Cordell, Crane and Fong (1975), greatly expanded this list and discussed the biochemistry of these compounds.

Since there were a lot of investigations concerning the role of plant estrogens in the reproductive physiological behaviour (Light and Worth, 1974; and Adams 1977 a), yet little attention has been paid to other extended possible changes in body functions.

Thus it is worthwhile to mention that, the role of phytoestrogen, when injected into animals and subsequently producing their effects,remains obscure.Samuel (1967)claimed that ruminant alter injected plant estrogens to a more or less potent levels of activity than would be formed by injecting the same dose into another animal or different species. Therefore, we should consider with interest the finding of Werbin, Chaikoff and Jones (1960), who claimed that phytosterols could be

converted to cortisol and this takes place via cholesterol as an intermediate. With additional interest we should consider the findings of Salen, Ahrens and Grundy (1970), when they stated that plant sterols have been shown to become converted in the animal body into bile acids. To increase the debate on the role of phytoestrogens in the animal body Subbiah& Kuksis (1975) stated that,the rat testis, in vitro has the ability to convert B-sitosterol to other steroid hormone.

An endeavour on this route was carried out by the previous studies of Mahmoud, El-Mougy and Diab (1984) as well as Mahmoud, El-Badry, El-Baghdady, Diab and El- Mougy (1985).

In this study the trial was continued to elucidate other effects of B-sitosterol, as one of the most potent phytoestrogen, as stated by Hassan, El-Ghamry, and Zayed, (1964), on the serum sodium and potassium levels as correlated with their regulatory hormones aldosterone and ACTH. In addition, the same study was made on the serum calcium and phosphorus levels as correlated with their regulatory hormones calcitonin and parathormone.