STUDIES ON THE UTILIZATION OF SOME NEW SOURCES OF FEEDSTUFFS IN RATIONS FOR RUMINANTS

By

MOHSEN MAHMOUD SHOUKRY

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Approved by:

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M.K. Hallouz
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Committe in Charge

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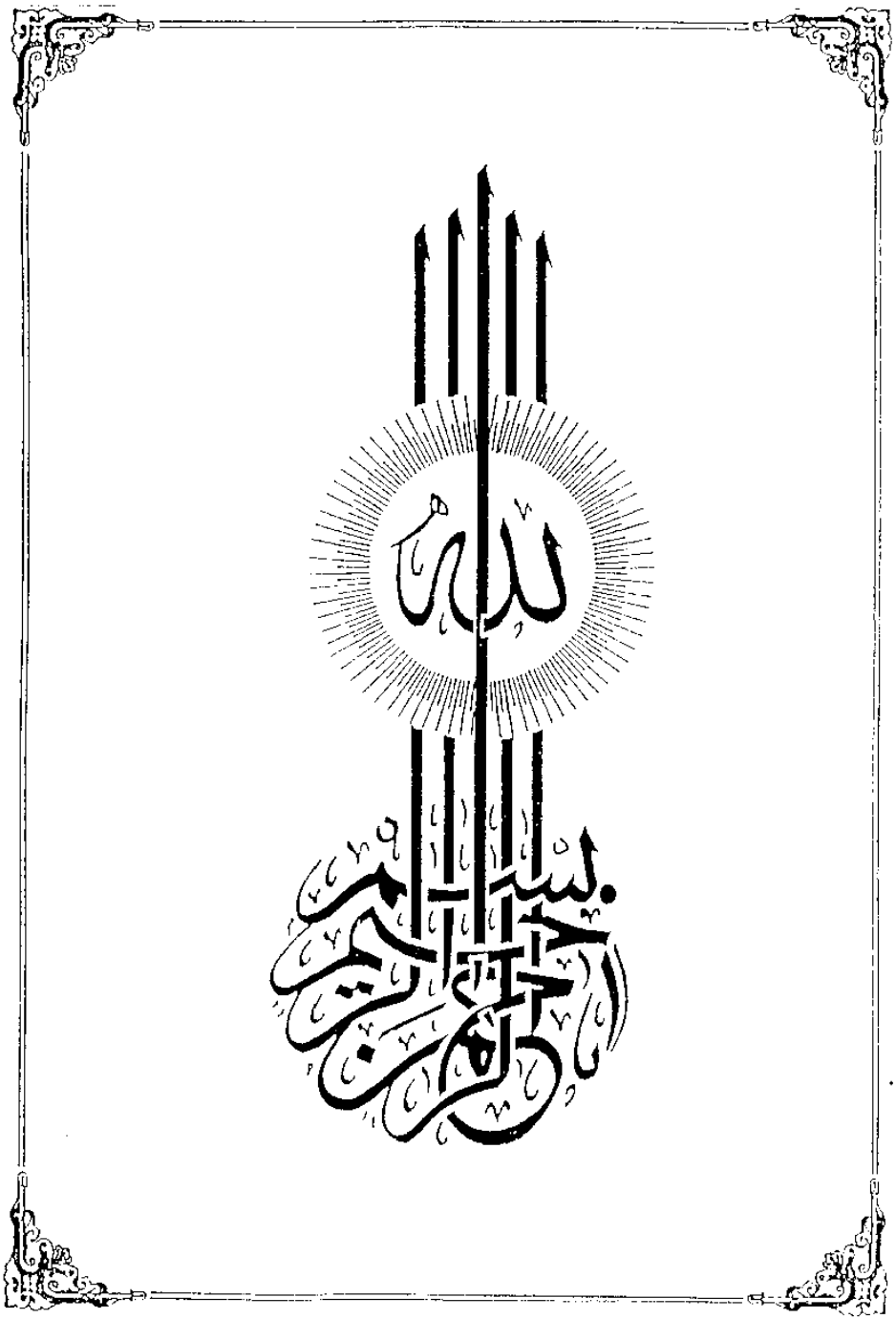

RESUME

Name	: Mohsen Mahmoud Shoukry
Birth date	: 12 . 9 . 1950
Nationality	: Egyptian
Present work	: Assistant Researcher, Animal and Poultry Nutrition Laboratory, National Research Centre, Dokki, Cairo.
Qualification	: B.Sc. (Agric. Animal Production) 1972, Ain Shams University.
Field of interse	: Ruminant nutrition.

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INTRODUCTION

In contrast to the normal situation in most countries, the price of roughages in Egypt is exceptionally higher than that of the concentrates. Therefore, intense efforts should be directed toward the search for new non-classical kinds of roughages.

A huge amount of water hyacinth plants are found in several types of waterways and they are controled usually, by mechanical means. Like wise in some other countries, water hyacinth plants should be processed as hay, haylage or silage, to be used as an economical roughage for ruminants. It was decided therefore, to evaluate the nutritive value of rations containing different levels of water hyacinth hay as a new source of roughage for ruminants.

REVIEW OF LITERATURE

1. Description of the plant.

Water hyacinth (Eichhornia Crassipes Solms) is one of numerous aquatic plants. It is a large free-floating plant with attractive lavender flower and shiny bright-green leaves on long petioles. The plants are found mainly in ponds and slow flowing streams, they are normally free-floating but, if stranded by receding water, will root in mud and survive. Uncrowded plants, particularly in shallow warer and full sunlight, have bulbular float petioles about 8 inches long, whereas crowded plants produce elongate petioles up to 50 inches long (Penfound and Earle, 1948). They also suggested the following plant size classes : midget, small, medium, large and gaint ; the midget being rooted on land, small being in full flower in shallow water, medium existing in still water often profusely flowered, large and gaint sizes thriving in moving, well-areated water of canals or open expanses. The latter are distinguished by elongated, equitant leaves up to 50 inches long with float leaves being non-existent.

2. The history and advent of Eichhornia to the Nile.

The water hyacinth has become a serious menace in many countries of the world. It has spread from the American tropics and assumed a largely pan-tropical distribution (Robertson and Ba Thein, 1932 ; Simpson, 1932 ; Jepson, 1932 ; Bose, 1945 ; Parham, 1947 ; Bouriquet, 1949 ; Vaas and Sachlan, 1949 ; Tackholm and Drar, 1950 ; Meadly, 1953 ; Robyns, 1956 ; Bates and Phipps, 1958 ; Mendonca, 1958 ; Gay, 1958 , 1960 a and b ; Allsopp, 1960 ; Chadwick and Obeid, 1966 ; Bock, 1969 ; Holm et al., 1969).

Tackholm and Drar (1950) reported that the plant was introduced to Egypt during the reign of Khedive Tawfiq (1879 - 1892) . Percheron (1903) mentioned the cultivation of Eichhornia crassipes in the ponds of public gardens at that time and warned against the dangers of the spread of this water pest in Egyptian canals. Thirty years later, Simpson (1932) write " In Egypt the plant is near Cairo, Alexandria, Damanhour,

Damietta and near Bilbis to Lake Manzala where it is a serious pest in Bahr El-Baqar drain system. There is also a stretch of it at the mouth of Bahr Hadus. It is found in fresh and brackish water but is killed by sea water, from the above distribution it seems fairly clear that the plant has spread from cultivation in towns." He also reported at the present time the water hyacinth is so localized in Egypt that it can be dealt effectively by manual labour supported by strictly enforced legislation. Every year, delay makes this less possible on account of large areas becoming contaminated. This has become the present situation. It is very rare to find a water habitant in Egypt, particularly in the delta, not menaced by Eichhornia crassipes. Floating islands of the weed are common in the Nile at Cairo, particularly during summer months. These floating mats drift northward with the current, and accumulate in the northern reaches of the Nile and completely cover the water surface, especially in the Damietta branch which is closed by an earthen dam (Batanouny and El-Fiky, 1975).