

**ASSESSMENT OF FEEDING
RACING HORSES IN KHARTOUM
STATE**



Introduction

Horse racing need to be fed a balanced diet. This means that they are given enough nutrients in hay and grain and that the nutrients are in the proper relationship to each other. Without a balanced diet, a horse's growth and development may be hindered, which may lead to unsoundness later in life.

when feeding alfalfa and hay to horses, make sure that it is free of blister beetles, which produce a toxin that can irritate a horse's digestive tract and often can kill the horse. High-quality hay gives the young horse the nutrients it needs for growth and development and lowers its chance of metabolic disorders such as colic.

A balanced concentrate is a mixture of grains, minerals, and vitamins that meets the nutrient requirements of when it is fed with good-quality hay. Oats, corn, and barley can be used to make a balanced concentrate. Many feed manufacturers carefully formulate their concentrates to meet the individual needs of young, growing horses; broodmares; stallions; performance horses; or mature, mare pregnancy , mare lactating . A single grain is not a balanced feed. Some horse owners mix or "cut" a balanced commercial feed with a single cereal grain, such as oats. This addition upsets the balance of the concentrate and can disrupt a young horse's growth and development. Horses need six types of nutrients: water, carbohydrates, fats, protein, minerals, and vitamins. Carbohydrates : Carbohydrates provide the horse with energy .

Fats also provide horses with energy. Vitamins Horses need very small amounts of vitamins:

Fat-soluble vitamins, A, D, E, and K are stored in body fat cells and in the liver.

Feed tags commonly list the amount of vitamin A. Water-soluble vitamins, such as vitamins C and B, usually are not added to the diet, because they are present in

feedstuffs or are synthesized by the horse. Minerals: Calcium and phosphorus

help form and maintain strong bones For the concentrate to be balanced,

these minerals must be provided in the proper ratio. A feed should have at least as

much calcium as phosphorus, which is a ratio of at least 1:1Nathalia (2013).

Objective of the study

The aim of this study was to assess the nutritional status of feed according to nutrition requirements for type of racing horse in Khartoum state.

Materials and Methods

1. Data collecting:

Questionnaire was designed to collect data from stable supervisor.

This questionnaire was applied in 10 stables in Khartoum state .

The questions raised in included information on :

1- the supervision Forage Concentrate (kg),and feed intake(kg).

2-Horse type (Breeding stallion 22%, Mare pregnancy 18%, Mare lactating 5%,

Young horse 42%, Foal before weaning 2%and Foal after weaning 9%).

Chemical Analysis:

Dry Matter (DM%), Crude Protein (CP%) Crude Fiber (CF%),

Ether Extract (EE%) and ash %.

Results and Discussion

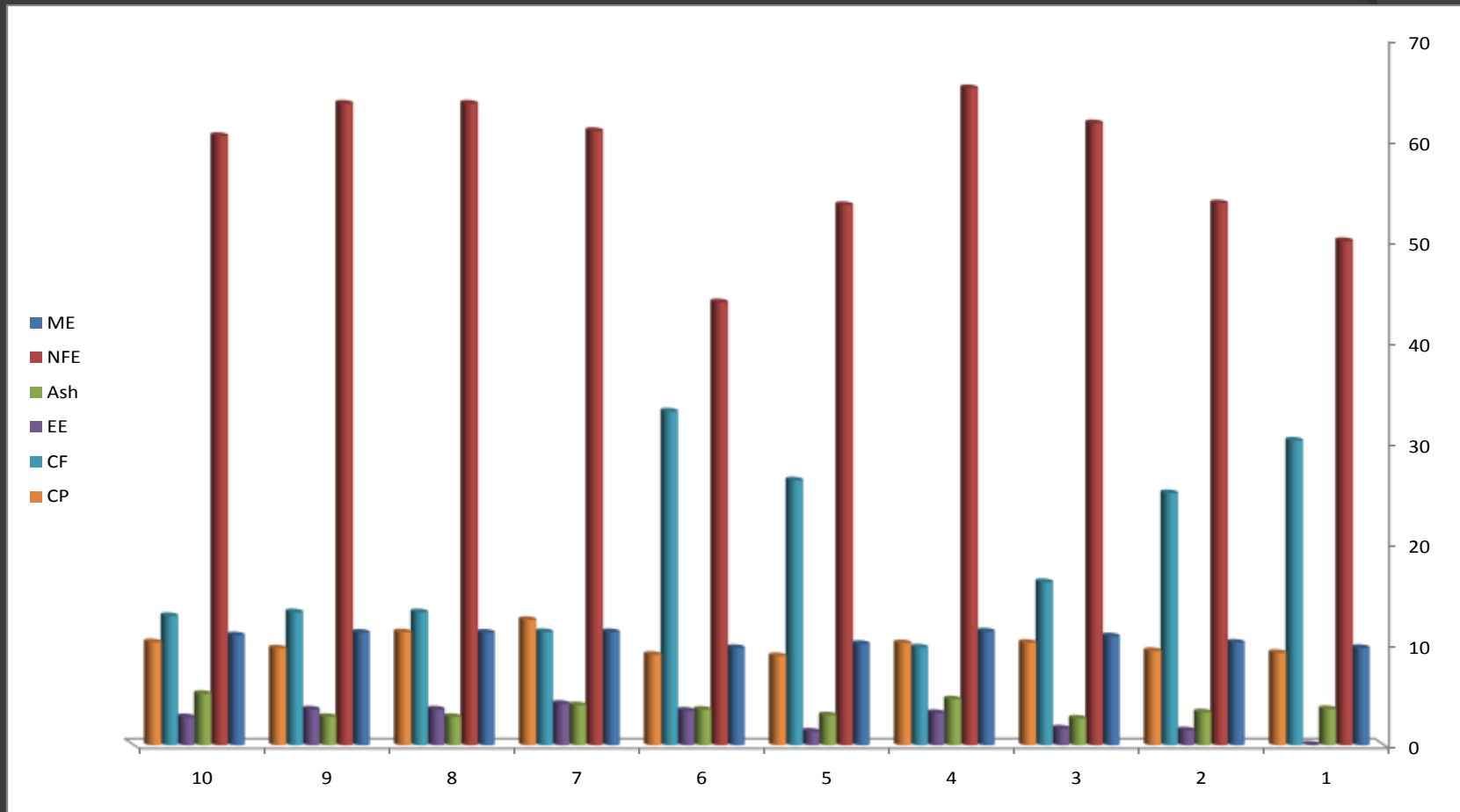
Table(1) The chemical composition of ration and calculated (ME) for selected stables in Khartoum state.

NO treat	DM%	CP%	CF%	EE%	ASH%	NFE%	ME Mj/kg Dm
1	93.04 ^{bc}	9.16 ^{fg}	30.21 ^b	0.074 ^h	3.59 ^{cde}	50.01 ^f	9.646 ⁱ
2	92.82 ^{bc}	9.35 ^{ef}	25.00 ^d	1.48 ^{ef}	3.27 ^{de}	53.74 ^e	10.173 ^g
3	92.32 ^c	12.16 ^d	16.18 ^f	1.66 ^e	2.65 ^e	61.69 ^{cd}	10.802 ^e
4	92.73 ^{bc}	10.12 ^d	9.70 ^k	3.2 ^c	4.55 ^{bcd}	65.16 ^b	11.284 ^a
5	92.00 ^{bc}	8.84 ^g	26.27 ^c	1.36 ^f	2.97 ^e	53.57 ^e	10.054 ^h
6	92.96 ^{bc}	8.98 ^{fg}	33.10 ^a	3.43 ^b	3.53 ^{de}	43.93 ^g	9.605 ⁱ
7	92.64 ^{bc}	12.43 ^b	11.23 ^j	4.11 ^a	3.97 ^{bcde}	60.92 ^d	11.221 ^b
8	92.30 ^b	11.20 ^c	24.14 ^e	3.44 ^b	3.6 ^{cde}	51.02 ^f	10.285 ^f
9	92.77 ^{bc}	9.60 ^e	13.19 ^h	3.555 ^b	2.81 ^e	63.63 ^{bc}	11.155 ^c
10	91.34 ^d	10.22 ^d	12.82 ⁱ	2.780 ^d	5.1 ^{bc}	60.42 ^d	10.903 ^d
SEM±	0.23	0.14	0.03	0.07	0.51	0.65	0.016

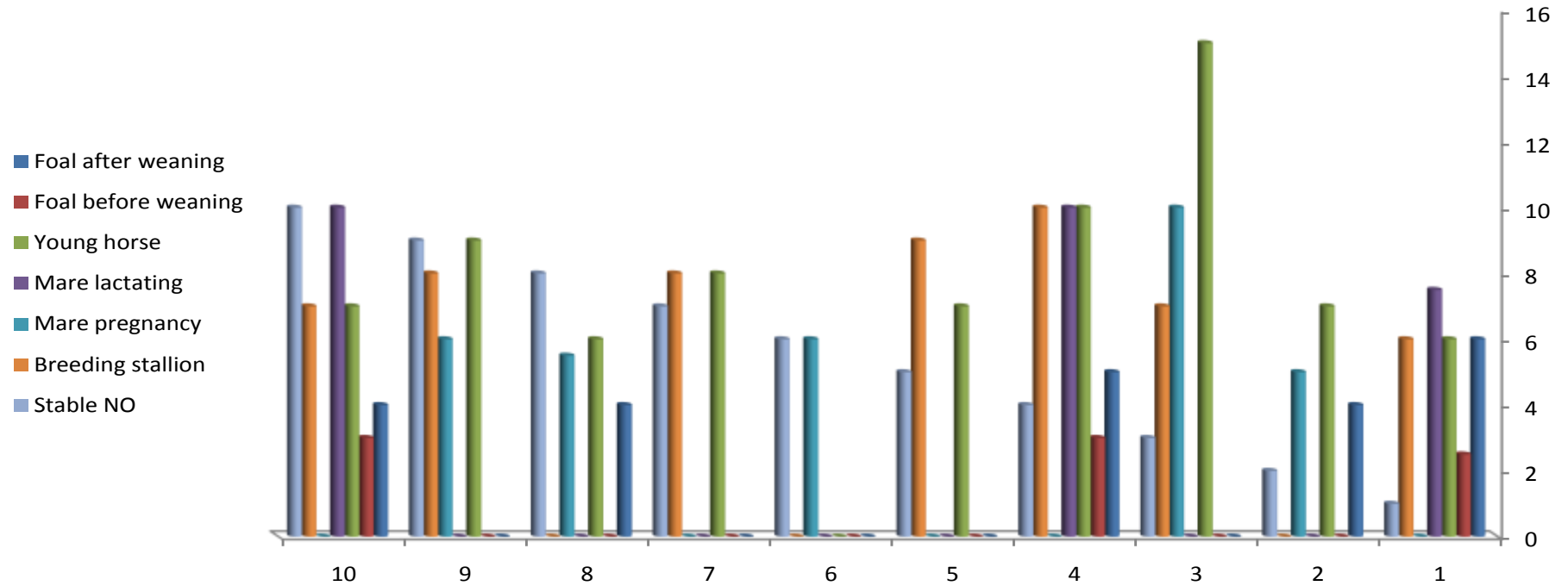
The chemical composition of alfalfa and rods: ■

NO treat	DM%	CP%	CF%	EE%	ASH%	NFE%	ME
11	72.37 ^e	18.21 ^a	7.07 ⁱ	0.38 ^g	6.83 ^a	39.89 ^h	9.676 ^b
12	96.00 ^a	2.48 ^h	13.47 ^g	0.36 ^g	5.2 ^b	74.5 ^a	11.055 ^a
SEM±	0.23	0.14	0.03	0.07	0.51	0.65	0.016

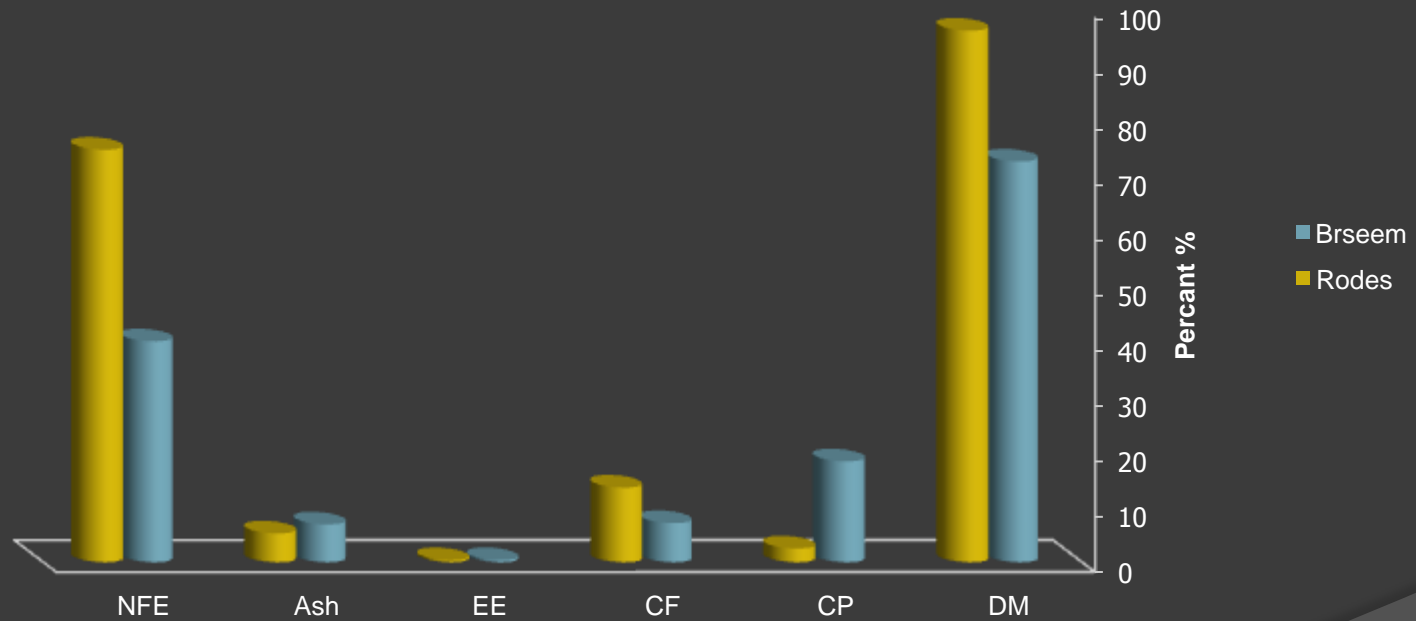
Figure (7) proximate analysis of concentrate feed and calculated (ME



Figure(2) feed of dry matter intake in type of horses



Figure(3) proximate analysis of alfalfa and rods



Conclusions and recommendation

1-In the field survey the results that the racing horses were fed over requirement in terms of dry matter intake and under fed of crude protein.

2-Generally Excess protein ,above the horses requirement, is un necessary and may be detrimental to athletic performance and cause colic also laminitis–Horse should be fed according to the scientific bas considering horse type and performance.

3-Rods are higher nutrient content than alfalfa and may be fed by themselves or in combination with grass hays.

4-Suggested feed intake levels considering the current crude protein values in order to conform to NRC: stallion horses, lactating mare, pregnant mare, young horses, foal after weaning and foal before weaning.

5-Young horses, lactating mares and late gestation need a diet with higher protein.

Thank!!!
You!!