

A Study on Determination of The Feeding Costs in Jumping Horse Breeding

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ABSTRACT

This study performed in order to periodically determine the feeding costs at the jumping horse breeding. The materials of the research were composed of the quantity of the feed materials given to the foal, mare and studhorses available in the Horse Production and Training Battalion Command allied with the Military Veterinary School and Training Center established in Bursa and unit costs in the records. Total breeding expense of a foal, up to 36 months, was determined as US\$ 3,811.40 besides this; total annual breeding expense of a non-training, lightly training, moderately training and hard training were respectively determined as US\$ 657.64, US\$ 898.36, US\$ 1,157.56 and US\$ 1,408.31. Total breeding expenses of pregnant mare, breastfeeding mare and studhorse in mating season were respectively determined as US\$ 1,540.78, US\$ 984.19, US\$ and 876.98. The proportions of the feed materials in the total breeding expenses of a foal, up to 36 months were determined as follows; 31,63% for foal grower feed, 23,65% for oat, 16,50% for joint additives, 15,18% for dried alfalfa, 7,05% for hay, 2,86% for vitamin-mineral and amino-acid complex, 2,40% for milk replacer and 0,72% for licking block.

Key Words: Feeding Cost, Feed, Horse Breeding, Jumping Horse.

Konkur Atı Yetiştiriciliğinde Besleme Maliyetlerinin Belirlenmesi Üzerine Bir Çalışma

ÖZ

Bu çalışma, konkur atı yetiştiriciliğinde besleme maliyetlerinin dönemsel olarak tespit edilmesi amacıyla yapılmıştır. Araştırmanın materyalini Bursa'nın Gemlik ilçesinde kurulu bulunan Askeri Veteriner Okulu ve Eğitim Merkezine bağlı At Üretim ve Eğitim Tabur Komutanlığında mevcut tay, kısarak ve aygırlara verilen yem materyallerinin miktarı ve kayıtlardaki birim maliyetleri oluşturmuştur. Araştırmada 36 aya kadar bir tayın toplam besleme gideri 3,811.40 US\$, ayrıca çalışmayan, hafif çalışan, orta çalışan, ve ağır çalışan bir atın bir yıllık toplam besleme gideri sırasıyla 657.64 US\$, 898.36 US\$, 1,157.56 US\$ ve 1,408.31 US\$ olarak tespit edilmiştir. Çalışmada gebe kısarak (11 ay), emziren kısarak (6 ay) ve aşım sezonundaki aygır (6 ay) için toplam dönemsel besleme gideri sırasıyla 1,540.78 US\$, 984.19 US\$ ve 876.98 US\$ olarak bulunmuştur. Araştırma kapsamında 36 aya kadar bir tayda yem materyallerinin toplam besleme giderleri içerisindeki payları sırasıyla %31,63 ile tay büyütme yemi, %23,65 yulaf, %16,50 eklem katkı maddesi, %15,18 kuru yonca, %7,05 kuru ot, %2,86 Vitamin-mineral ve aminoasit kompleksi, %2,40 süt ikame yemi ve %0,72 yalama taşı olarak saptanmıştır.

Anahtar Kelimeler: Besleme Maliyeti, Yem, At Yetiştirme, Konkur Atı.

INTRODUCTION

Horse raising and equine sector are growing in every country that attaches importance and takes an interest in this field of activity, and are structurally becoming more of an industry at every point from production to marketing. In this scope, the primary goals should be to analyse the production and cost structure of the different segments of the sector, determine the income and marketing problems, and devise proposals and strategies for the resolution of socio-economic problems faced by enterprises.

Throughout the history, horses have provided important services, particularly in agriculture, transportation and military operations. However, the utilisation of horses in these fields declined with the emergence of mechanisation in the industrial revolution, and horse raising for race and sports purposes has become more popular. In addition, people in various countries and regions still draw on the labour and traction power of horses to various extents in agricultural and other services (Doğan 2006). Horse breeding has a high level of costs but also it has significant shares in the national income of countries where horse raising industry is well-developed. Costs of horse raising enterprises include main expenses, horse-related expenses, competition-related expenses, and operating expenses. Expenditures made for horse raising are usually calculated per horse. The most important criterion in horse raising is a balanced nutrition. Lack of a balanced nutrition results in loss of speed, strength, growth, fertility and body form. A horse consumes 4.5 to 5 tons of feed per year in average. Considering the feed to be consumed by a foal, the total feed consumption in two years will be 12-13 tons. Thus, it is essential to pay particular attention to the nutrition of foals and mares, and to arrange and plan their rations in a balanced manner (Küçükersan et al. 2011). According to Kline (2008), feed prices are on the rise for reasons such as the poor harvests in recent years and the use of agricultural lands for cultivation of corn to produce ethanol. Feed costs account for 60-80% of the total production costs in horse breeding. According to Wilson and Martinson (2009), with the increasing prices of feeds in recent years, effective use of feeds has become even more important. In order to be able to feed horses in an economically efficient manner, the nutrient requirements of horses should be determined well. Accordingly, the best way to save on costs of feeding is to feed the horses individually with appropriate amounts and types of feedstuffs. Like other animals, horses need energy, protein, water, and basic nutrients such as vitamins and minerals. Specific amounts of the nutrients needed by horses vary depending on their weight, size and physiological status. A horse in the mating season, pregnancy, lactation, growing period, or in labour needs a very

different level of nutrients compared to a full-grown and inactive horse (McCall 2012).

Nutrition of sport horses is economical when the ration with the lowest cost is prepared to meet the nutrient needs of horses, especially taking into account their working conditions and physiological characteristics. The present study aims to calculate the monthly and annual costs of horse nutrition that vary depending on several parameters (age, performance, workload, pregnancy, etc.) on the basis of feedstuffs and types of nutrition used in sport horse breeding for jumping in Turkey as well as to determine the cost items that make up the cost of horse breeding.

MATERIALS and METHODS

The main material of the study is the purchase prices of feeds and feed raw materials and the ration information for 2010-2011 production period in relation to the horses raised in the Horse Production and Training Battalion at the "Military Veterinary School and Training Centre Command" in Gemlik, Bursa. Microsoft Excel was used for the analysis of the obtained data and for the cost calculations.

Based on the horse breeding and nutrition practices in Turkey and the world, all details of feeding costs in sport horse breeding for jumping are scrutinised. Different feeding strategies are compared, and attempts are made to show the economic discrepancies between such practices. This study on feeding costs in horse breeding addresses well-accepted feeding strategies depending on the age, training time and pregnancy of horses in Turkey, and presents detailed information on sport horse feeding practices in Turkey. For this purpose, domestic and foreign sources, data and documents relating to the topic were used in addition to the main material of the research. In addition to the economic comparison of the feeding rations used in jumping horses, calculations and analyses were made in an attempt to determine the average feeding costs in the facility examined in this study, taking into account the amount and content of the feed raw materials. In determining the feeding costs, separate calculations were made for horses of different natures and characteristics on the basis of the purchase prices of feeds and feedstuffs and the ration composition (Table 1).

As a model of preparation of rations with the lowest cost, the feeding costs of sport horses raised in this organisation, one of the largest stud farms where sport horses are raised, were analysed comprehensively according to animal groups, feeding programs and types of rations. The findings obtained are examined in tables, and the seasonal feeding costs are shown in detail.

RESULTS

This study was conducted on the rations used in the Military Veterinary School and Training Centre Horse Production and Training Battalion for horses subjected to different modes of feeding depending on their conditions such as age, weight, training, pregnancy and lactation. The calculations and tables relating to the costs of rations given to jumping horses rely on the provisions of "Regulation on Feeding of Animals in Turkish Armed Forces". Since a great majority of the stallions in the unit where the study was conducted were above 601 kg, the ration and the amount of feed given were set accordingly, which were shown in the calculations in the cost tables (Table 2-6). The Regulation on Feeding of Animals in Turkish Armed Forces classifies foals into 5 age groups, namely, 0-2 months, 3-6 months, 7-12 months, 13-24 months, and 25-36 months. It classifies horses into two groups by their pregnancy, namely, Pregnant Mares for 0-9 months and Pregnant Mares for 10 months and above, and into two groups by their lactation period, namely, Lactation Period for 0-3 months and Lactation Period for 4 months and above. Horses are classified into four groups by their training status, namely, non-training, lightly training, moderately training and hard training. Stallions in mating season are subjected to special feeding for up to 6 months. Foals at 0-2 months of age are fed with milk substitute feed if their mother dies, the foal rejects to suckle or does not have vigour, or the mother's milk is insufficient. The daily cost of milk substitute feed and lick block given to foals at 3-6 months of age after their 3rd month was found to be US\$ 1.03. Milk substitute feed was cut off, and foal growth feed started to be given to foals at 7-12 months of age. Joint additive was added into the ration for the development of bones and joints of the foals. The daily cost of feeding of the foals at 7-12 months of age was found to be US\$ 4.20. It was found that the share of the joint additive used in the rations for

foals at 13-24 months of age in the total cost of feeding was 28.88%, making it the cost item with the highest share of the total cost. The daily cost of feeding of the foals at 13-24 months of age was found to be US\$ 4.81. As the foals at 25-36 months of age were not given joint additive and there was no significant change in the other feeding items, the total cost of feeding declined for this age group. The daily cost of feeding of the foals at 25-36 months of age was calculated to be US\$ 3.32. As to the rations prepared for foals (0-36 months) in the study, the total cost of feeding was found to be US\$ 3,811.40. The cost items making up the total cost of feeding include milk substitute feed (2.40%), foal growth feed (31.63%), oat (23.65%), dried alfalfa (15.18%), straw (7.05%), joint additive (16.50%), feed additive (2.86%), and lick block (0.72%).

The daily costs of feeding of non-training, lightly training, moderately training and hard training horses were calculated to be US\$ 1.80, US\$ 2.46, US\$ 3.17 and US\$ 3.86, respectively. Furthermore, it was found that the total daily and annual costs of feeding gradually increase in parallel with the increase in the content of the rations due to increased intensity of training.

The daily costs of feeding of mares in their pregnancy period of 0-9 months and 10-11 months by the ration content used were calculated to be US\$ 4.64 and US\$ 4.79.

The daily costs of the feed given to mares breast-feeding their foals in the first and second quarterly periods were found to be US\$ 5.51 and US\$ 5.42, respectively.

The cost of feed given to stallions in a period of 6 months prior to the mating season was calculated. The daily cost of feeding of stallions in their mating season was calculated to be US\$ 4.87.

Table 1: Daily Feed Rations of Horses According to Breeding Categories and Unit Prices of Feeding Material Used in the Study

Tablo 1: Yetiştirme Dönemlerine Göre Atlarda Günlük Yem Rasyonları ve Çalışmada Kullanılan Besleme Materyallerinin Birim Fiyatları

Breeding Period	Feed Contents Used in Daily Ration Per Horse (g)										
	Pellet Feed (Milk Substitute)	Pellet Feed (Foal Growth)	Pellet Feed (Training Horse Feed)	Pellet Feed (For Mares and Stallions)	Oat	Dried Alfalfa	Straw	Joint Additive	Vitamin, Mineral and Aminoacid Complex	Lick Block	
Foals	Foal (0-2 Months)	0	0	0	0	0	0	0	0	0	
	Foal (3-6 Months)	0	2.000	0	0	0	0	0	0	25	
	Foal (7-12 Months)	0	3.000	0	0	1.500	2.000	3.500	13.5	50	
	Foal (13-24 Months)	0	2.400	0	0	1.900	2.000	3.500	27.6	50	
	Foal (25-36 Months)	0	2.400	0	0	2.000	2.000	4.000	0	50	
Adult Horses	Non-training	0	0	1.000	0	1.000	1.000	5.000	0	50	
	Lightly Training	0	0	1.500	0	1.000	2.000	6.000	0	50	
	Moderately Training	0	0	2.500	0	1.500	2.000	5.000	0	50	
	Hard Training	0	0	3.000	0	2.000	2.500	5.000	0	50	
	Pregnant Mare 0-9 Months	0	0	0	2.200	1.400	2.200	6.000	27.6	40	
	Pregnant Mare 10-11 Months	0	0	0	3.000	1.500	1.500	5.000	27.6	40	
	Lactating Mare 0-3 Months	0	0	0	2.800	2.250	2.500	6.000	27.6	90	
	Lactating Mare 4-6 Months	0	0	0	2.400	2.500	2.500	6.000	27.6	50	
	Stallion 0-6 Months in Mating Season	0	0	0	2.000	1.500	3.000	6.000	27.6	90	
	Average Unit Prices of Feeding Material (US\$/kg)	0,508	0,526	0,524	0,501	0,532	0,318	0,080	50,289	5,000	0,578

Table 2: Feeding Costs of Foals (0-36 Months) (US\$)

Tablo 2: Yavru Atlarda (0-36 aylık) Besleme Maliyeti (US\$)

Feed/Foal	0-2 Months	3-6 Months	7-12 Months	13-24 Months	25-36 Months
Pellet Feed (Milk Substitute)	0,00	0,00	0,00	0,00	0,00
Pellet Feed (Foal Growth)	0,00	91.56	284.05	460.79	460.79
Oat	0,00	0,00	143.74	369.20	388.63
Dried Alfalfa	0,00	0,00	114.45	232.08	232.08
Straw	0,00	0,00	50.26	101.91	116.46
Joint Additive	0,00	0,00	122.20	506.61	0,00
Vitamin, Mineral and Aminoacid Complex	0,00	0,00	36.01	73.02	0,00
Lick Block	0,00	1.30	5.20	10.55	10.55
Total Amount	0,00	92.86	755.91	1,754.16	1,208.51
Grand Total			3,811.40		

* The calculations made in Turkish Lira (₺) were converted into US dollar using the exchange rate in the relevant period (Average exchange rate for 2010-2011: US\$1=₺1.73)

Table 3: Feeding Costs of Horses (12 months) by Their Training Status (US\$)

Tablo 3: Çalışma Durumuna Göre Atlarda (12 aylık) Besleme Maliyeti (US\$)

Feed/Horse	Non-training	Lightly Training	Moderately Training	Hard Training
Pellet Feed (Training Horse Feed)	191.15	286.73	477.87	573.45
Oat	194.32	194.32	291.48	388.63
Dried Alfalfa	116.04	232.08	232.08	290.10
Straw	145.58	174.68	145.58	145.58
Joint Additive	0,00	0,00	0,00	0,00
Vitamin, Mineral and Amino Acid Complex	0,00	0,00	0,00	0,00
Lick Block	10.55	10.55	10.55	10.55
Total Amount	657.64	898.36	1,157.56	1,408.31

Table 4: Feeding Costs of Horses (11 months) by Their Pregnancy Status (US\$)**Tablo 4:** Gebelik Durumuna Göre Atlarda (11 aylık) Besleme Maliyeti (US\$)

Feed/Horse	Pregnant Mare 0-9 Months	Pregnant Mare 10-11 Months
Pellet Feed	297.34	90.10
Oat	201.24	47.91
Dried Alfalfa	188.84	28.61
Straw	129.22	23.93
Joint Additive	374.75	83.28
Vitamin, Mineral and Amino Acid Complex	54.02	12.01
Lick Block	7.80	1.73
Total Amount	1,253.21	287.57

Table 5: Feeding Costs of Mares (6 months) by Their Lactation Period Status (US\$)**Tablo 5:** Emzirme Durumuna Göre Kısıraklarda (6 aylık) Besleme Maliyeti (US\$)

Feed/Horse	Lactating Mare 0-3 Months	Lactating Mare 4-6 Months
Pellet Feed	126.14	108.13
Oat	107.80	119.78
Dried Alfalfa	71.53	71.53
Straw	43.07	43.07
Joint Additive	124.92	124.92
Vitamin, Mineral and Amino Acid Complex	18.01	18.01
Lick Block	4.68	2.60
Total Amount	496.15	488.04

Table 6: Feeding Costs of Stallions (6 Months) in Their Mating Season (US\$)**Tablo 6:** Aşım Sezonundaki Aygırlarda (6 aylık) Besleme Maliyeti (US\$)

Feed/Horse	Stallion 0-6 Months
Pellet Feed	180.21
Oat	143.74
Dried Alfalfa	171.67
Straw	86.15
Joint Additive	249.84
Vitamin, Mineral and Amino Acid Complex	36.01
Lick Block	9.36
Total Amount	876.98

DISCUSSION

Due to the quantitative and qualitative insufficiency of the scientific studies conducted on the costs of care and feeding in horse raising facilities, the results obtained from this study were rather assessed and interpreted in itself. The present study determined that a foal consumes 9.5 tons of feed in total until 36 months of age, and 3.17 tons of feed annually in average. The study revealed that the daily cost feeding of a foal from 0 to 36 months of age was US\$ 3.48, whereas the daily cost feeding of a

pregnant mare was US\$ 4.67, the daily cost feeding of a breast-feeding mare was US\$ 5.47, and the daily cost feeding of a stallion in mating season was US\$ 4.87. A study conducted by Gordon (2001) reports that the cost of feeding of broodmares is higher than that of young horses, whereas manege and training are a more significant cost item (annually \$800 in average). This is in line with the findings of this study. According to the findings of the study, a non-training horse, a lightly training horse, a moderately training horse and a hard training horse consume 2.94, 3.85, 4.03 and 4.58 tons of feed annually,

respectively. A Pregnant Mare (11 months), a Breast-Feeding Mare (6 months) and a Stallion in Mating Season (6 months) consume 3.88, 2.45 and 2.28 tons of feed, respectively. By comparing their annual consumption, it was found that the horses with the highest consumption of feed were the Breast-Feeding Mare, Hard Training Horse and Stallion in Mating Season, respectively. Gordon (2001) calculated the annual average cost of feed per horse to be US\$ 2,660 for thoroughbred and standard horses, and US\$ 700 for ponies. In a study conducted by Rolo (2010), the total annual average cost of feed per horse, including the fodder and excluding the feed additives, was calculated to be US\$ 622.50. In the present study, the annual average costs of feed were calculated to be US\$ 1,754.16 for foals at 13-24 months of age, and US\$ 1,208.51 for foals at 25-36 months of age. It is considered that the removal of joint additive and vitamin, mineral and amino acid complex from the ration of foals at 25-36 months of age played a role in the reduction of the cost of feeding compared to foals at 13-24 months of age despite the increase in the amount of oat and fodder in the ration. The annual average costs of feeding of a non-training, lightly training, moderately training and hard training horse were calculated to be US\$ 657.64, US\$ 898.36, US\$ 1,157.56 and US\$ 1,408.31, respectively. One can see that the cost of feeding of horses increases in parallel to their training status. The research findings are lower than the cost calculations in Gordon's study (2001) and higher than Rolo's study (2010). Considering the forage and water consumed in pastures, which were not included in the calculations, the cost of feeding of horses would be higher than the figures above. A study conducted by Heusner (2006) states that putting the animals out to pasture reduces feed and bedding costs, and calculates the annual average cost of feeding to be US\$ 2,025.15 in a pasture system and US\$ 2,719.43 in a completely closed system, meaning that the cost of feeding in a closed system is 34.28% higher than that in pasture feeding. In consequence of calculations based on some national, official and local studies, Heusner (2006) noted that the total annual costs of a horse consisted of feed (50%), veterinary services (19%), blacksmith expenses (10%), bedding (8%), insurance (6%), equestrian equipment (5%), and insecticides (2%). In a study conducted by the British Horse Society (2004) in the UK, the annual average cost of feeding of an adult horse was calculated to be £2,540, including hay (two bales per week) for £364, fodder (4 small bales per week) for £936, haylage (3 small bales per week) for £936, granule pellet bag (1 bag per 3 weeks) for £122, and bran bag (1 bag per 2 weeks) for £182. It is also stated in the same study that the training cost of a horse in training facilities is around £2,600, which is as much as the cost of feeding. A study by De Oliveira et al. (2010) notes

that the substitution of commercial concentrated mixtures for oat and forage ensures a significant reduction of costs in horse breeding, and therefore the optimal and planned use of pasture and meadow resources in animal husbandry enterprises is an effective tool for minimising the production and raising costs. Undersander et al. (2002) found that the annual cost of round bales (576 lbs) that are not accessible by animals, are kept on the ground, and are consumed freely was US\$ 2,296, and the annual cost of bales (576 lbs) given in a feedbox was US\$ 1,568. So, the free consumption of bales is 46.43% more costly than consumption of bales in a feedbox. Martinson et al. (2012) reported that many horse owners in the USA find round bales convenient, less labor intensive and more affordable than other hay types, but an inability to control horse body weight gain and excessive hay waste with economic perspective. Eastwood et al. (2006) emphasized that the equestrian industry is a large and complex sector encompassing breeding and production, horse owners and riders, horse services for sports, competitions, hobbies, entertainment, etc., and production of equestrian equipment. The total economic value of the equestrian industry in the UK is reported to be £2.5 billion in the study. There are 2.4 million riders and 6,000 equestrian enterprises in the UK, and 500,000 hectares of agricultural land in rural areas is used for feeding of horses. The production sectors associated with the equestrian industry include pharmaceutical companies, feed producers, companies manufacturing feedboxes and constructing paddocks, maneges, stables, etc., and equipment producers manufacturing training, equestrian and harness equipment, and equipment for diagnosis and treatment of diseases.

Cost items related to horses include shelter, fences and facilities, labour, blacksmith, feed, veterinary services, transportation, training and practice services, and equestrian equipment (such as bridle, halter, saddle, etc.). Management of equestrian enterprises requires knowledge of marketing, strategic planning, risk management, business administration, resource management, and accounting. Particularly, labour resources, horse resources, physical factors, financial resources, and risk management are of great importance for resource management. In the calculations made by Cordell (2003), where the horse purchase price, costs of riding courses, training expenses, performance and health expenditures made by horse owners were ruled out, the annual average amount of expenditures for horses in equestrian enterprises in the US was found to be US\$ 4,784, which varies depending on several factors such as the breed of the horse and the region where it was fed. This amount includes the annual cost of feed at US\$ 520 (US\$10/week; US\$1.43/day) and the annual cost of hay at US\$ 624 (3 bales x US\$4=US\$12/week;

US\$1.71/day). So, the share of feeding costs, including the costs of feed and hay, in the total annual cost is 23.90%. Other care and feeding costs include horseshoe and blacksmith expenses, vaccination costs, anti-parasite medicine expenses, teeth rasping expenses, and costs of shaving, foot care and other care materials. The study underlines that the share of horse feeding costs in the total costs rises to 43.1% if the shoeing cost (US\$70) paid once in every six weeks (US\$ 2,130 in total) is removed from the total costs (Cordell 2003).

Horse breeding, encompassing the horse production and training activities, is increasingly developing as a more modern and informed sub-sector of animal husbandry in the world, particularly in developed countries. Horse races and other equestrian activities in Turkey help equestrianism make progress towards becoming a significant industry, and the sector's contribution to the country's economy is escalating.

In recent years, the prices of plant products used as raw material, thus the prices of feeds for animals have been on the rise due to several factors such as climate changes, use of agricultural lands for different purposes, seasonal and ecological reasons, fall in the level of production of some crops, and population increase, raising the operating costs in animal production. In this regard, the optimum use of feed resources, inclusion of quality raw materials with appropriate properties into the feeding systems and rations, determination of the feeding costs, and minimisation of feeding costs in line with the purposes of the enterprise are essential strategies in horse breeding, just like they are in all animal husbandry industries. The majority of the cereals produced in Turkey are for consumption of humans. Production of cereals for feed is insufficient, and the cereals produced for feed are often used in poultry, dairy and feeder cattle raising, and ovine and caprine animal production sectors, which are larger industries. Hence, it is crystal clear that the prices of feeds and feed raw materials used in horse breeding should be followed in the best manner possible, that the costs of feeding should be controlled effectively, and that breeders should make use of feeds more efficiently and effectively.

CONCLUSIONS

In order to be able to feed horses profitably and productively, horse breeding enterprises should know the nutritional needs of horses very well and prepare the rations accordingly to ensure the provision of a balanced and sufficient diet.

Results of the studies indicate that it is possible to considerably save on the costs of feeding if the horses are assessed according to various parameters such as individual training and performance status, age groups, pregnancy, usage as stud or broodmare, and appropriate amounts and types of feed raw

materials are provided in the ration prepared accordingly.

From the findings obtained from the present study based on the example of sport horse breeding, it is concluded that the calculation of feeding costs, a major cost item in horse breeding, as well as the analysis and periodical follow-up of the costs are crucial for equestrian enterprises.

Regardless of the purpose of the breeding activity, the procurement of inputs, particularly feeds and feed raw materials, at low prices, and the analysis of cost items, including care, feeding, health expenses, etc., are central to the success of the horse breeding enterprises. Furthermore, cultivation of forage crops and better use of pastures and meadows by enterprises reduce the costs of feeding.

This study calculates the periodical (daily, monthly, annual) costs of feeding of horses that vary depending on several parameters (age, performance, workload, pregnancy, etc.) on the basis of the feed raw materials used and modes of feeding applied in sport horse breeding in Turkey, and determines the cost items making up the costs of feeding of horses.

It should be borne in mind that financial and economic studies to be conducted on various levels and areas of activity in the equestrian industry will significantly contribute to the enterprises and the sector, and will lay the scientific groundwork for the removal of barriers to sectoral growth.

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