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A COMPREHENSIVE STUDY ON THE IMPACT OF DIETARY IMPROVEMENT ON JENNY MILK PRODUCTION

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Abstract: Donkey milk is increasingly recognized for its nutritional benefits and potential role in sustainable farming. This research examines the effects of supplementing a pasture-only diet with complementary compound feeds to improve milk yield. To enhance nutritional intake, their diet was supplemented with specially formulated complementary feeds, consisting mainly in cereals and sunflower meal, in proportions adequate to the nutrient requirements of donkeys (equines). A total of 15 jennies were monitored over a one-month period. Before supplementation, the average daily milk yield ranged from 390.88 ml to 920.42 ml. Following the dietary intervention, the average daily milk production increased significantly, ranging from 515.49 ml to 1008.62 ml. The results indicate that a more balanced nutritional approach positively influences lactational performance.

Key words: donkey, ration, balanced nutrition, jenny milk production

• Introduction

In recent years, there has been a growing interest in donkey milk production as part of sustainable agriculture, driven by its nutritional benefits and potential market expansion. This study aims to investigate the effects of dietary modification on milk production in jennies by comparing milk yield before and after the introduction of compound feeds into a previously pasture-only diet.

• Material and method

This study explored the effects of dietary changes on milk production in lactating jennies. Their diet primarily consisted of pasture, supplemented during the winter months with mountain hay that was rich in cellulose. A total of 15 lactating jennies, aged between 5 to 10 years and in various stages of lactation (ranging from 4 to 8 months), were chosen. Milking was performed manually once each morning.

The dietary supplementation involved a pelleted compound feed composed of grains, sunflower meal, vitamins, and bentonite as a binding agent. This mixture was designed to enhance protein intake while maintaining digestibility. Each jenny received 2 kg of pellets daily over a one-month period, during which milk production was closely monitored.

• Results and discussions

At the beginning of the research period, the average daily milk yield per jenny ranged from 390.88 ml to 920.42 ml/day, reflecting the baseline dietary conditions consisting solely of pasture. This variation was influenced by factors such as age and individual differences among the animals.

By the end of the study, the average daily milk yield increased significantly, ranging from 515.49 ml to 1008.62 ml/day. This improvement was linked to a complementary diet of grains, sunflower meal, and essential vitamins, highlighting the crucial role of adequate nutrition in enhancing lactation performance in jennies.

Individuals	Average milk production ml/day	
	Before supplementation	After supplementation
1	870,12	1000,5
2	750,45	860,32
3	880,67	990,75
4	500,3	600,2
5	920,42	1008,62
6	450,5	650,45
7	700,21	830,11
8	580,8	680,9
9	780,55	890,67
10	610,32	820,15
11	540,11	750,85
12	430,29	580,81
13	600,25	800,78
14	500,67	625,6
15	390,88	515,49

• Conclusions

The study indicated that dietary supplementation markedly increased milk production in jennies over a one-month period. The pelleted feed, which included grains, sunflower meal, and vitamins, improved their nutritional intake.

These findings highlight the significance of balanced diets for lactating animals and suggest a need for further research into optimal feeding strategies for equines.

Jenny feed ration

Feed Type	%	D.M. (kg)	Crude Fiber (%)	Feed units	D.C.P. (g)	Ca (g)	P (g)
Corn	48.50	0.88	42.68	2.00	97.00	1.05	50.93
Wheat	40.00	0.88	35.20	2.00	80.00	1.02	40.80
Sunflower meal	8.00	0.91	7.28	20.00	160.00	0.90	7.20
Bentonite	2.50	0.00	0.00	0.00	0.00	0.00	0.00
Zoofort	1						
Total Concentrate	100	85.16	300.00	98.93	9803.50	49.70	342.95
For 1 kg	1	0.85	3.00	0.98	98.03	0.49	3.42