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# RESEARCH REGARDING LIPIZZAN COLT BREED BEHAVIOUR, IN THE STUD FROM SÂMBĂTA DE JOS

# CERCETĂRI PRIVIND COMPORTAMENTUL MÂNJILOR DIN RASA LIPIŢAN, DIN HERGHELIA SÂMBĂTA DE JOS

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*The paper presents the colts' behaviour represented by Lipizzaner breed, of different ages, from the stud in Sâmbăta de Jos, Braşov County. Using the method of free and direct observation, timing, photo taking and recording, the 24 hour activities of the animals have been traced, recording the frequency and duration of several stages: decubitus, relaxing, sucking, feeding, movement, sleeping, defecation and urination. The tracing and replacement of technological shortcomings lead also to the replacement of some unwanted events which cause useless sufferance.*
**Key words:** behaviour, Lipizzaner breed, colt.

## Introduction

When it comes to an animal, its behaviour is the sum of perceivable activities: movements, attitudes, sonorous and chemical emissions and so on, all integrated and coordinated at the level of the organism, as an answer to the sense perception from the environment, to assure survival and breeding.

The knowledge of the behaviour is important because: the display of normal behaviour for animals during their breeding and exploration shows that they have been provided with the specific requests towards alimentation, watering, microclimate, space and rest conditions. The assurance of a proper ambiance during the entire production flow, of the needed space and the possibility for these animals to get into contact with each other are all minimum requests for the display of a healthy sexual behaviour, essential for gaining animal breeding performances.

The tracing and replacement of technological shortcomings lead also to the replacement of some unwanted events which cause useless sufferance.

According to DUNCAN and MENCH, quoted by MIHAI DECUN (2004), the study of animal behaviour is an open door towards their emotions and their sufferance is mostly revealed through changes in behaviour.

## Materials and Methods

The research was focused on the horses represented by Lipizzaner breed colts, from the stud in Sâmbăta de Jos, Braşov County, on a number of 5 specimens of different ages.

Using the method of free and direct observation, timing, photo taking and recording, the 24 hour activities of the animals have been traced, recording the frequency of several stages: decubitus, relaxing, sucking, feeding, movement, sleep, defecation and urination. The duration of these activities has also been recorded. The data has been processed through common statistical methods, both on individuals and groups of individuals.

The colts stayed with their mothers for two weeks in special nursery boxes, on straw litter. After this period they were moved to the mother mares' shelter, where the mares are separated according to the age of the colts.

The mother mares' shelter with colts up to weaning was hall type, with pounded earth floor on which they put a straw litter.

When it comes to their movement, the colts stayed inside until they are 2-3 months of age and were sheltered in case of bad weather and after this age they followed their mothers on the pasture.

## Results and Discussions

The colt rests and sleeps nearby his mother mare. In the first weeks of his life, the colt rests in a sterno-abdominal decubitus position or lateral, which can be seen in Table 1, as higher values recorded in the case of sterno-abdominal decubitus position for all the 4 age categories taken into consideration in the study, different from the lateral decubitus position. Gradually, the duration of the resting and sleeping time will step down. Around the age of 3 months, the colts take the orthostatic position during their rest and sleep, no matter if they are on the pasture or inside their shelter. At the age of 1-2 weeks, the average duration of the sterno-abdominal decubitus position was 18.64 minutes, recording a diminution down to 13.68 minutes at the age of 5-6 months.

From Table 1 and diagram 1, where the evolution of the duration for different colt activities during 24 hours is presented, we noticed that the duration of a decubitus period decreases together with their age at 25.08 minutes at the age of 1-2 weeks and 16.57 minutes at the age of 5-6 months.

The same decrease can also be noticed for the frequency of decubitus periods, from 27.4 periods at the age of 1-2 weeks to 20.6 periods at 5-6 months (Table 1 and diagram 2).

When it comes to the duration of a standing period we notice that it increases together with age, recording an average duration of 22.81 minutes at the age of 1-2 weeks, increasing to 33.01 minutes at 1 month of age, 44.03 minutes at 3 months of age and 61.58 minutes at 5-6 months of age as it results from chart and diagram 1.

The frequency of standing periods decreases together with age, from 33.2 periods at the age of 1-2 weeks to 25.0 periods at the age of 5-6 months.

Table 1

The ethogram for Lipizzaner colt breed during 24 hours of observation, from different age categories

| The activity | Unit | Colt age | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1-2 weeks | | 1 month | | 3 months | | 5-6 months | |
| | | X±SEM | V% | X±SEM | V% | X±SEM | V% | X±SEM | V% |
| The duration of a decubitus period | min | 25.08±1.12 | 9.98 | 21.72±0.90 | 9.22 | 18.62±0.44 | 5.25 | 16.57±0.89 | 12.01 |
| The frequency of decubitus periods | no. | 27.4±0.93 | 7.57 | 26±0.63 | 5.44 | 23.2±0.58 | 5.62 | 20.6±0.93 | 10.07 |
| The duration of a sterno-abdominal decubitus position period | min | 18.64±0.79 | 9.52 | 17.45±0.65 | 8.39 | 15.53±0.53 | 7.67 | 13.68±0.36 | 5.93 |
| The frequency of sterno-abdominal decubitus position period | no. | 27.8±0.86 | 6.92 | 26.8±0.58 | 4.87 | 23.4±0.24 | 2.34 | 21.4±0.51 | 5.33 |
| The duration of a dorsal-ventral decubitus position period | min | 12.96±0.97 | 16.79 | 9.46±0.93 | 21.95 | 7.06±0.38 | 12.06 | 6.07±0.43 | 15.99 |
| The frequency of dorsal-ventral decubitus position period | no. | 12.8±0.86 | 15.03 | 10.6±1.25 | 26.35 | 9.6±0.51 | 11.88 | 7.6±0.51 | 15.00 |
| The duration of a standing period | min | 22.81±0.67 | 6.61 | 33.01±088 | 5.99 | 44.03±1.31 | 6.65 | 61.58±2.59 | 9.42 |
| The frequency of standing period | no. | 33.2±1.1 | 7.50 | 26.6±0.68 | 5.70 | 23±0.71 | 6.87 | 18±0.71 | 8.78 |
| The duration of a movement period | min | 4.71±0.15 | 6.98 | 4.78±0.07 | 3.24 | 4.89±0.11 | 5.06 | 5.71±0.10 | 3.75 |
| The frequency of movement period | no. | 113.4±2.29 | 4.52 | 117.6±2.36 | 4.48 | 123.6±1.47 | 2.66 | 107±2.07 | 4.33 |
| The duration of a stationing period | min | 3.91±0.13 | 7.59 | 4.13±0.29 | 15.74 | 4.64±0.36 | 17.21 | 7.01±0.28 | 9.07 |
| The frequency of stationing period | no. | 18.2±1.20 | 14.74 | 25±0.77 | 6.93 | 26.6±0.24 | 2.06 | 29.2±0.97 | 7.42 |
| The duration of a concentrated feed consumption period | min | 2.10±0.08 | 8.36 | 2.74±0.13 | 10.40 | 3.44±0.12 | 7.47 | 7.21±0.27 | 8.45 |
| The frequency of concentrated feed consumption period | no. | 8.8±0.8 | 20.33 | 13.8±1.03 | 15.99 | 14.4±0.51 | 7.92 | 9.6±0.51 | 11.88 |
| The duration of a fibrous feed consumption period | min | 1.72±0.03 | 4.24 | 4.49±0.07 | 3.49 | 5±0.15 | 6.84 | 10.81±0.42 | 8.67 |
| The frequency of fibrous feed consumption period | no. | 8.4±0.81 | 21.63 | 14±0.84 | 13.36 | 6.6±0.4 | 13.55 | 15.2±0.66 | 9.76 |
| The duration of a sucking period | min | 1.27±0.01 | 1.73 | 1.25±0.02 | 3.61 | 1.15±0.02 | 3.13 | 0.91±0.02 | 3.80 |
| The frequency of sucking period | no. | 92.6±4.37 | 10.54 | 86.8±2.89 | 7.44 | 78±2.17 | 6.21 | 58±0.84 | 3.23 |
| The duration of a grazing period | min | | | | | 5.4±0.45 | 13.26 | | |
| The frequency of grazing period | no. | | | | | 12±0.55 | 6.02 | | |
| The frequency of defecation | no. | 4.8±0.37 | 17.43 | 5.4±0.37 | 14.43 | 5.8±0.40 | 16.56 | 6.4±0.4 | 13.98 |
| The frequency of urination | no. | 9.2±0.49 | 11.91 | 11±1.67 | 34.02 | 12±1.22 | 10.21 | 13.8±0.8 | 12.96 |
| The duration of a rest and sleep period | min | 19.14±0.64 | 7.45 | 18.80±0.65 | 7.67 | 17.55±0.71 | 9.03 | 16.91±1.26 | 16.71 |
| The frequency of rest and sleep period | no. | 26.6±1.33 | 11.15 | 24.4±1.17 | 10.69 | 23.00±1.00 | 9.72 | 21.4±0.68 | 7.09 |

When it comes to movement, the duration of a period increases from 4.71 minutes at the age of 1-2 weeks to 4.78 minutes at 1 month. When the colt is 3 months of age the average duration of a movement period was 4.89 minutes and at 5-6 months of age reached 5.71 minutes, meanwhile the frequency of the movement periods – diagram 2 – reached a maximum value at 3 months of age, 123.6 periods, and afterwards it decreased at the age of 5-6 months to 107 periods.

Diagram 1

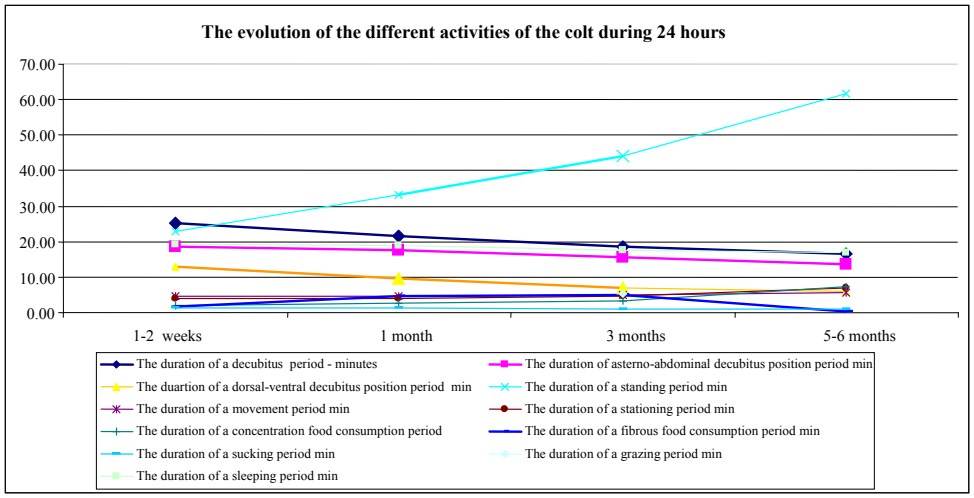
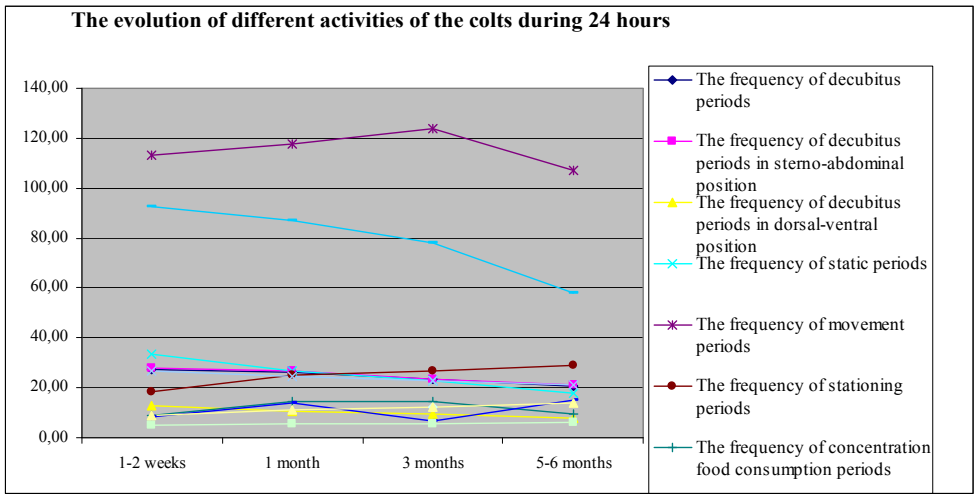



Diagram 2




The duration of a stationing period reaches a medium value of 3.91 minutes at the age of 1-2 weeks and increases gradually up to 7.01 minutes at the age of 5-6 months, increase which can also be recorded in the case of the frequency of stationing periods.

The average frequency of the concentrated feed consumption periods in 24 hours increases from 8.8 periods at the age of 1-2 weeks to 14.4 periods at the age of 3 months. After that, a decrease takes place as a result of the increase of the ingestion capacity, 9.6 periods, meanwhile the duration of concentrated feed

consumption period increases to 2.10 minutes at the age of 1-2 weeks and 7.21 minutes at the age of 5-6 months.

Similar aspects are also recorded in the case of fibrous feed consumption, where the average frequency of the fibrous feed consumption periods increases from 8.4 periods at the age of 1-2 weeks to 14 periods at 1 month and decreases at 3 months due to the fact that the colts together with the mother mares are taken outside on the pasture, grazing together.

The duration of a sucking period decreases together with age from 1.27 minutes at the age of 1-2 weeks to 0.91 minutes at the age of 5-6 months.

The high frequency of the sucking periods in colts between 1-2 weeks old, 9.26, is an answer to the accumulation of some low quantities of milk, due to the fact that at this age, the gastric capacity does not exceed 2-2.1 liters. Together with age, the frequency of the sucking periods decreases to 58 periods at the age of 5-6 months.

From the analysis of the data regarding the frequency of defecation and urination during the 24 hours of observation, we notice that both in the case of defecation as well as urination, the frequency increases together with the age of the colts.

Table 2

The hourly duration of the main features analyzed in colts, represented by different age categories

| | 1-2 weeks | | 1 month | | 3 months | | 5-6 months | |
|---|---|---|---|---|---|---|---|---|
| The activity | Total hour time | % | Total hour time | % | Total hour time | % | Total hour time | % |
| **The total decubitus duration, where:** | 11.41 | 47.54 | 9.39 | 39.14 | 7.18 | 29.93 | 5.64 | 23.51 |
| sterno-abdominal decubitus position | 8.63 | 18.15 | 7.78 | 82.86 | 6.05 | 25.21 | 4.87 | 86.36 |
| dorsal-ventral decubitus position | 2.78 | 5.85 | 1.61 | 17.10 | 1.13 | 4.72 | 0.77 | 3.27 |
| **The total duration of the static period, where:** | 12.59 | 52.46 | 14.61 | 60.86 | 16.82 | 70.07 | 18.36 | 76.49 |
| Movement | 8.89 | 70.62 | 9.35 | 64.03 | 10.07 | 59.86 | 10.18 | 55.46 |
| Standing period | 1.18 | 9.40 | 1.73 | 11.84 | 2.06 | 12.25 | 3.42 | 18.61 |
| The total duration of concentrated feed consumption | 0.31 | 243 | 0.66 | 4.54 | 0.83 | 4.92 | 1.15 | 6.28 |
| The total duration of fibrous feed consumption | 0.24 | 1.91 | 1.05 | 7.19 | 0.55 | 3.25 | 2.73 | 14.87 |
| The duration of a sucking period | 197 | 15.63 | 1.81 | 12.39 | 1.49 | 8.88 | 0.88 | 4.78 |
| The total duration of grazing | | | | | 1.82 | 10.84 | | |

From Table 2 and diagram 1 we noticed that the entire decubitus duration in 24 hours decreases from 11.41 hours at the age of 1-2 weeks, representing 47.54% from 24 de ore, to 7.18 hours at the age of 5-6 months, representing 29.93% from 24 hours.

The total resting duration in orthostatic stationing increases during 24 hours, from 12.59 hours at the age of 1-2 weeks, to 18.32 hours at the age of 5-6 months.

Diagram 3

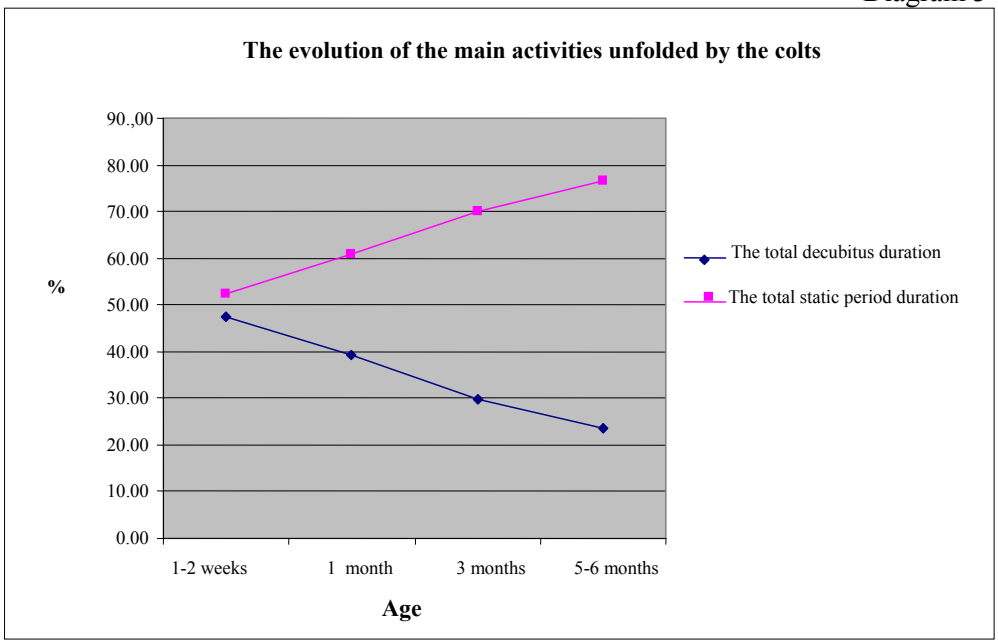
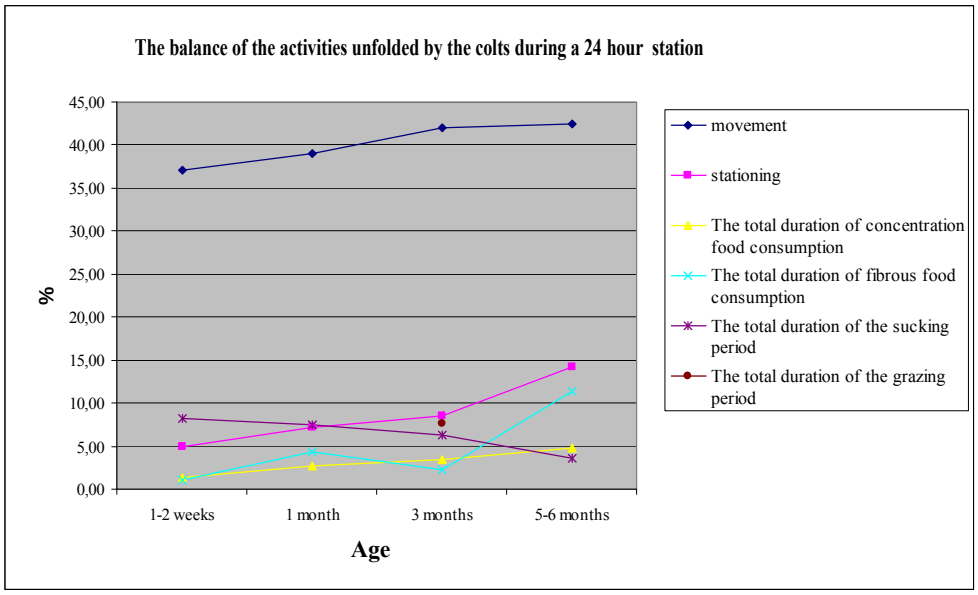



Diagram 4



During 24 hours, as results from Table 2 and diagram 4, the colts up to 1-2 weeks old spend 8.89 hours moving, which represents 70.62% from 24 hours, meanwhile at the age of 5-6 months, the movement time is 10.18 hours which represent 55.46%. The time assigned for stationing at the age of 1-2 weeks is 1.18 hours, 9.4%, meanwhile it gradually increases until the age of 5-6 months when it reaches the value of 3.42 hours, representing 18.61% from 24 hours. The time assigned for fibrous feed and concentrated feed consumption increases gradually together with age, from 0.31 hours concentrated feed consumption, 0.24 hours fibrous feed consumption at the age of 1-2 weeks up to 1.15 hours and 2.73 hours, respectively at the age of 5-6 months. The time assigned for sucking decreases from 1.97 hours at the age of 1-2 weeks, to 0.88 hours at the age of 5-6 months.

## Conclusions

1. Colts are resting both in decubitus attitude as well as in standing attitude. If in the first case the average frequency of decubitus periods as well as the average duration of a period decrease together with age, in the second case the phenomenon is opposite, meaning that together with age, due to the evolution of the passive apparatus, both the average frequency of standing periods as well as the average duration of a period increase.

2. During the standing period, the colts show the following activities: sucking, concentrated feed consumption, fibrous feed consumption, drinking, stationing, moving, defecation and urination.

3. The duration of a fibrous feed consumption period increases together with age and its frequency increases up to the age of 3 months and afterwards decreases, due to the fact that the feed ingestion capacity increases parallel with age, reflecting also in the duration of a certain period.

As a result of this research, we recommend the following: to ensure the necessary comfort so that the colts can unfold their activities in the corresponding conditions of hygiene and alimentation; from the data regarding the periods of concentrated feed and fibrous feed consumption we can notice that the colts need a low quantity of these feedstuffs, which assess the administration of low quantities of concentrated and fibrous feed, but in a big number of portions.

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# CERCETĂRI PRIVIND COMPORTAMENTUL MÂNJILOR DIN RASA LIPIŢAN, DIN HERGHELIA SÂMBĂTA DE JOS

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*În lucrare este prezentat comportamentul mânjilor din diferite categorii de vârstă, din rasa Lipiţan din Herghelia Sâmbăta de Jos, jud. Braşov. Prin metoda observaţiei libere şi directe, cronometrări, fotografieri şi înregistrări s-au urmărit activităţile desfăşurate pe parcursul a 24 de ore, înregistrându-se frecvenţa reprizelor de decubit, staţiune, staţionare, supt, consum concentrate, fibroase şi păşunat, frecvenţa reprizelor de mişcare, somn, defecare şi urinare. De asemenea au fost înregistrate durata acestor activităţi. Identificarea şi înlăturarea deficienţelor de ordin tehnologic conduce la îndepărtarea unor cauze care produc suferinţă inutilă.*
**Cuvinte cheie:** comportament, rasa Lipiţan, mânz.