

RESEARCH ON THE FEEDING BEHAVIOR OF FOALS

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Abstract

Due to the evolution of technologies and sociocultural changes of the last decades, the employment of the equines in Romania has changed thoroughly.

Between 2014 and 2017, twenty foals have been observed at three farms in Covasna County, from birth to weaning. Data has been collected from intervals defined by the research protocol. Foals have been observed during the first six months of their lives, the data from their first seven days being analysed in two segments: days 0-2 and days 3-7, followed by days 28-30 and 178-180.

During observation biometric data was recorded, and also data regarding to the feeding behaviour of foals, like for example: the time after birth when first suckling was starting, the number and duration of suckling sessions, the passing of meconium, the occurrence of some foal behaviour patterns, the start of other food consumption, and the differences in feeding behaviour due to age and gender of the foals.

With the foals aging, a decreasing tendency in the number and duration of suckling sessions has been observed, and also differences due to the gender and the breed of the foals have been noticed.

Keywords: Foals, colostrum, feeding behaviour

INTRODUCTION

The consumption of colostrum and of the milk after is important for the development of new-borns, and also for their gradual passing to forage consumption.

The period between parturition and weaning is relatively long for young horses, and the development of the new-born is spectacular.

Because in the literature there are less information concerning the feeding behaviour of suckling foals, we consider like interesting to study this using video techniques on a representative number of foals in different farms from Romania.

MATERIAL AND METHODS

Throughout the research protocol, in the 2015, 2016 and 2017 twenty foals have been observed, at three farms from Covasna county, Romania.

The animals was maintained in different conditions at this three farms: in closed stalls, in stalls with access to paddocks, and on pastures.

In regard to the development of the studied animals in this period, the data collected during the entire observation period has been divided and analysed in four shorter intervals of the foals' life: the first two days after birth, the days 3-7 of foals age, the 28-30 days of age and the 178-180 days of foals age (just before weaning).

Video recording devices have been used and biometrical data and other specific information's (like the time after birth till the first suckling starts, the number of sucklings daily, the behaviour of the mares etc) has been collected throughout some predefined periods; a total of 6240 hours of video recordings have been analysed.

RESULTS AND CONSIDERATIONS

The identification of the feed source, respectively the mother's udder, and the start of suckling is one of the first important realisation of new-bornes foals.

The start of suckling is in direct relation with the ability of foals to stand up and moving. Usualy the first attempts of foals to suckling is hapening in other region of the body of mother's mare but after they will find the udder with the mother helpand using

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the nose because from the nipples begins to flow some colostrum drips. At the first suckling, part of the milk/colostrum is flowing down from the foals mouth, because they are not enough inured to swallow.

Differences occurred depending on the breed and between males and females.

The results are presented in figure 1.

The average time after birth to start the first suckling was 94 minutes, with a large variation: from only 37 minutes after birth to 175 minutes after birth in individual cases.

Only 15% of the studied foals have found the nipples and start to suckling in the first hour after birth and 30% of the foals just after two hours.

The foals' food consumption consists solely of dam milk during the first period of their lives, with a relatively high oscillation of the sucking intervals during the lactation period. To observe the feeding behavior and to have a more thorough view, the data has been divided into four groups according to the observation period, the first week of the foals' life being divided into two segments: days 1-2 and days 3-7. For the third observation period, days 28-30 have been chosen, while the last observation period has been focused on days 178-180 before ab lactation.

Data has been extracted from the ethological files regarding the individual total number of sucklings per day, which is shown in (tab. 1).

During the observation period, the 20 specimens had a total of 19.226 suckling intervals, with an average of 74 times per day, with a minimum of 5 sucklings per day and a maximum of 92 per day.

The analysis of the data collected in the first observation period (first two days of life) shows that the specimens had 3150 feeding intervals, with an average of 79 times per day, the minimal value of suckling intervals being of 39 per day, and the maximum of 92 times per day.

During the second period, days 3-7, the foals have visited the dams' teats for 8347 times, with an average of 79 sucklings per day, the minimal value being of 67 sucklings and the maximum of 83 sucklings per day.

Between days 28-30 of foals age, a total number of 4663 sucklings took place, with an average of 83 sucklings per day, the minimal number of sucklings was 61/day/foal, while the individual maximum was of 90 sucklings per day.

During the last period, days 178-180, the observed group performed a total of 3068 sucklings, the average of this period being 51 sucklings per day, with a minimum of 5 sucklings and a maximum of 67 sucklings per day (tab. 1.).

The individual number of sucklings shows a high dispersion, its evolution through time presents a decreasing trend for every specimen. The high differences between the number of sucklings points out the specific nature of this behavior, due to individual particularities that are genetically predefined, such as gender, breed, temper, and also influenced by the dam's genetical attributes, and the milk production, which may be affected by the mare's nutrition and the maintenance system.

Table 1 The number of foals sucklings (average, minimal and maximal values)

Period of age (days)	Total nr. of sucklings/group	Average nr. of individual sucklings/day	Minimum of individual sucklings/day,	Maximum of individual sucklings/day
1-2	3168	79	39	92
3-7	8347	83	67	91
28-30	4663	78	61	90
178-180	3068	51	5	67
1-180		74	5	92

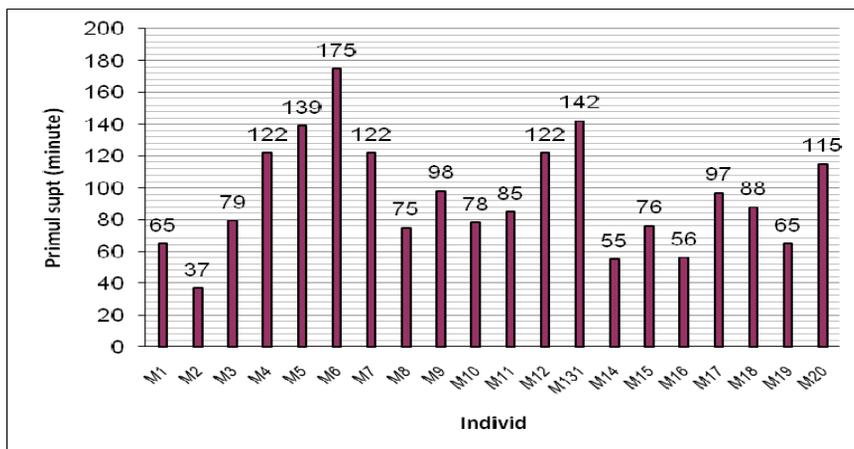


Figure 1 First suckling start (time after birth, in minutes) (individual values)

CONCLUSIONS

In the first period after birth, the newborn foals consume only mare's milk.

The start of suckling is in direct relation with the ability of foals to stand up and moving.

The average time after birth to start the first suckling was 94 minutes, with a large variation: from only 37 minutes after birth to 175 minutes after birth in individual cases.

Only 15% of the studied foals have found the nipples and start to suckling in the first hour after birth and 30% of the foals just after two hours.

For the entire period (6 months), the average number of individual sucklings per day was 74; in the first week and also first month of foals age, the average number of sucklings was around 80 (with individual variations usually from 60 to 90) and this number decreased in the next five months to an average of 51 (minimum 5 and maximum 67, in individual cases).

The high dispersion of the number and duration of suckling intervals during the observation period shows characteristics that are particular to each of the specimens, characteristics that may be influenced by the milk production of the dams, and by their nutrition.

The foals feeding behavior cannot be treated separately from the feeding behavior of the mares, because starting with the first

hours of its life, the foal observes the dam's behavior, and tries to imitate its mother.

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