



انسان جهاد کشاورزی استان گلستان



انستگاه گنبد کاووس



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## Reproductive Characteristics of Turkman Camel in northeast of Iran

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### Abstract:

To identify reproductive characteristics of Turkman dromedary camel, a questionnaire was distributed among small dromedary camel holders in the northeast part of Iran (Golestan Province). Each questionnaire was filled out by an expert person. Based on small dromedary camel holder's replies, the following characteristics are found. Male and female Turkman dromedary camels get into puberty and mate when they are from 3 to 4 years old. This camel has seasonal reproduction in which only in the cold season from January to April, male and female camels have natural mating. The estrus signs in female are the reduction in intake and milk production, increased nervousness and/or restlessness, not permitting to be milked, looking for male and bawl or bellowing. The pregnancy in this camel last for  $375 \pm 10$  days and in the next cold season parturition occur. These small dromedary camel holders did not report any milk fever or retained placenta in their animals but reported few cases (less than 10%) of dystocia especially in nulliparous camels. In the cases which female camel has good nutritional condition it can get pregnant at least 20 days after parturition but usually they get pregnant in the next mating season so the childbirth interval is 24 months. Baby camel's weight at childbirth is in average 35 kg for male and 30 kg for female. Mean milk production is  $9 \pm 5$  L/day which last for 18 months if the camel doesn't get pregnant in the next mating season.

Keywords: Turkman dromedary camel, reproduction characteristics, Golestan Province

### Introduction:

For centuries, the camel has been a very important animal in the arid regions because of its ability to provide milk, meat, and transport in harsh, dry conditions whereas llamas and alpacas play an important role for the people of the Andean region providing hair, meat, pelts, transport, and dung for fertilizer and fuel (Fernandez-Baca, 1993). However, as camels are generally used in less well-

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developed countries, research into improving characteristics such as fertility and milk and meat production have been lacking.

The reproductive efficiency of camels under natural conditions is generally regarded to be low. For example, Djellouli and Saint-Martin (1992) reported an overall calving rate of approximately 40% for 30 herds in Tunisia and a mortality rate of 17% between birth and 1 year of age. This is probably due to the relatively short breeding season, a longer prepubertal period, a long gestation period of 13 months, a prolonged (8–10 months) period of lactation-related anestrus leading to a long inter-calving interval, and the lack of use of assisted reproductive techniques such as embryo transfer and artificial insemination.

The studies on camel reproduction carried out at research centres or experimental stations (e.g. Yagil and Etzion, 1984; Khanna et al., 1990; Aboul-Ela, 1994) led to overdrawn expectations in their reproductive potential (Yagil and Etzion, 1984; Yagil, 1993). Reproductive performance of camels in pastoral herds was only rarely assessed (Wilson, 1989) and then usually based on small animal numbers (e.g. Abbas et al., 2000), except for the studies of Planchenault (1984) in Niger and Maillard (1992) in Sudan. The aim of this paper was to study reproductive characteristics of Turkman dromedary camel in the northeast part of Iran, Golestan Province.

### Materials and methods:

This study was conducted in order to survey the reproductive characteristics and estrus behaviour of Turkman dromedary camel in northeast of Iran. Questionnaire with different question prepared and distribute among Turkman camel holders. The camel holders are selected from various regions and villages from north of Gonbad-e-kavous city. Also the selected camel holders had enough experiences about camel breeding. In this study, each questionnaire was filled out separately by each expert person. Some of camel holders had high experiences and was working more than fifty years. The questions and interviews were planned to get the most accurate informations about reproductive characteristics and estrus behaviour of male and female Turkman camel. Filling out of each questionnaire took about two hours for each holder. Finally all of the questionnaires are collected and all information are classified and analysed.

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Figure 1. The study area in Golestan Province

### Results and discussion:

Male and female Turkman dromedary camels get into puberty and mate when they are 3 or 4 years old. This camel has seasonal reproduction in which only in the cold season from January to April, male and female camels have natural mating. The estrus signs in female are the reduction in intake and milk production, increased nervousness and/or restlessness, not permitting to be milked, and looking for male and bawl or bellowing. The pregnancy in this camel last for  $375 \pm 10$  days and in the following cold season of parturition occurrence. These small dromedary camel holders did not report any milk fever or retained placenta in their animals but reported few cases (less than 10%) of dystocia, especially in nulliparous camels. In the cases which female camel has good nutritional condition, it can get pregnant at least 20 days after parturition, but usually they get pregnant in the next mating season so the childbirth interval is 24 months. Baby camel's weight at childbirth is in average 35 kg for male and 30 kg for female. Mean milk production is  $9 \pm 5$  L/day which last for 18 months if the camel doesn't get pregnant in the next mating season.

The results of this experiment showed that Turkman dromedary camel in the northeast Iran have low reproductive performance so that parturition interval of camels was 2-3 years. It seems that the reason for such a low reproductive performance is that Turkman camels have very long open days. The camel holders prefer a two-year parturition interval, because they desire to produce more milk and other dairy products. Generally, after the parturition, camel holders milk their camel for 18-20 months. Fazad and saghi (2009) investigated the reproductive trials of camels in desert land of Khorasan. They reported that most matting (63.8 %) occurred in January and it was the lowest (1.7 %) in April. These results were in agreement with our results about season of matting.

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## خصوصیات تولید مثلی شترهای ترکمن در شمال شرق ایران

عبدالحکیم توغدوری<sup>۱</sup>، عباسعلی ناصریان<sup>۲</sup>، غفار تخله<sup>۳</sup> و رحمت سمیعی<sup>۳</sup> و مختار مهاجر

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چکیده:

برای شناسایی ویژگی‌های تولید مثلی شتر ترکمن، پرسشنامه‌ای در میان دارندگان پرورش دهنده‌گان گله‌های کوچک شتر ترکمن در بخش شمال شرقی ایران (استان گلستان) توزیع شد. هر پرسشنامه توسط یک فرد متخصص پرورش دهنده تکمیل شد. بر اساس پاسخ‌های پرورش دهندگان گله‌های کوچک شتر، اطلاعات زیر به دست آمد. شترهای نر و ماده ترکمن در سن ۳ تا ۴ سالگی به بلوغ می‌رسند. این شترها دارای تولید مثل فصلی می‌باشند، که تنها در فصل سرد سال از دی تا فروردین می‌باشد. و شترهای نر و ماده به طور طبیعی جفت‌گیری می‌کنند. از علائم فحلی شترهای ماده کاهش مصرف خوراک و کاهش تولید شیر، افزایش عصبانیت و یا بی‌قراری که در نتیجه اجازه دوشش نمی‌دهد و جستجو برای شتر نر و بیداد کردن می‌باشد. طول دوره بارداری در این شترها به مدت  $375 \pm 10$  روز می‌باشد که در فصل سرد بعدی زایمان رخ دهد. این گروه از پرورش دهندگان شتر هیچگونه تب شیر یا جفت ماندگی را گزارش نکردند. اما تعداد بسیار محدودی (کمتر از ۱۰ درصد) سخت‌زایی در زایمان اول را گزارش کردند. در مواردی که شتر ماده به خوبی تغذیه شود، می‌تواند تا ۲۰ روز بعد از زایمان علائم محلی را نشان داده و آبستن شود، اما معمولاً در فصل جفت‌گیری بعدی آبستن می‌شوند بدین ترتیب فاصله زایمان حدود ۲۴ ماه است. وزن بچه شتر در هنگام تولد به طور متوسط ۳۵ کیلوگرم و ۳۰ کیلوگرم به ترتیب در بچه شتر نر و ماده است. متوسط تولید شیر  $9 \pm 5$  کیلوگرم در روز است که در صورت عدم آبستنی در فصل جفت‌گیری بعدی می‌تواند تا ۱۸ ماه طول بکشد.

کلمات کلیدی: شتر ترکمن، خصوصیات تولید مثلی، استان گلستان

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