



PHYSIOLOGICAL STUDIES ON PRODUCTIVE AND REPRODUCTIVE PERFORMANCE IN ZARAIBI GOATS

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5. SUMMARY AND CONCLUSIONS

5.1. Experimental locus

This study was carried out from October 2015 to December 2016 at El-Serw Agriculture Research Station belonging to Animal Production Research Institute (*APRI*); locate in Damietta governorate, Egypt. Also, this study was in cooperation Department of Animal Production, Faculty of Agriculture, Damietta University, Egypt.

5.2. Experimental Animals

A total of twenty-one dairy Zaraibi nanny goats with body weight ranged from 26.0 to 42.0 kg and ages of 19.0 to 67.0 months. The nanny goats were in three different parities such as 1st (G1), 3rd (G2) and 5th (G3). The each group parity contained from 7 dairy Zaraibi goats. All experimental goats were submitted to the mating season which started from the first of October 2015 up to the mid of November 2015. All goats were received the experimental feedstuffs according to requirements of **NRC (2007)** to meet recommended allowances for dairy goats during the different reproduction and production phases.

5.3. Experimental procedures

The following experimental procedures were used to measure the reproductive (physiological parameters) and productive (harvest parameters) performances in different parities as early (1st parity) G1, middle (3rd parity) G2 and late (5th parity) G3 of dairy Zaraibi goats.

5.3.1. Reproductive performance

It included :- conception rate, prolificacy, birth type, litter size, gender of kids, gestation length, kidding interval, oestrus resumption and its duration and body weight of new kids discuss:- birth weight, weaning weight and weight gain, birth weight and weaning weight of the male and female kids and birth weight and weaning weight according to litter size.

5.3.2. Productive performance

It included: - suckling milk amount, milk yield amounts, milk yield components, persistency of lactation and area of udder cistern.

5.4. The obtained results could be summarized as follows:

5.4.1. Reproductive finding

The reproductive performance of dairy Zaraibi goats was recorded through G1, G2 and G3 parities. Conception rate recorded similar results among G1, G2 and G3 parities. Calculation of prolificacy in the G2 and G3 parities was greater (185.71 and 185.71%) than that (157.14 %) in the G1 parity, respectively. The birth types, triplet rate was higher in G2 (28.57%) and G3 (14.29%) than goats in G1 (00.00%) parity. Litter size was improved in G2 (2.29) following by G3 (2.14) parity compared to those in G1 (1.71) parity. Sex ratio of female: male kids born was found to be 66.67:33.33%, 37.50: 62.50% and 60.00:40.00% in the G1, G2 and G3 parities, respectively. Average of gestation length, kidding interval and estrus resumption and duration also recorded significant ($P < 0.05$) values among parities. Thus, gestation length was 149.29, 145.86 and 143.29 days, kidding interval was 0.00, 350.29 and 365.71 days, estrus resumption was

48.57, 37.14 and 36.71 days and estrus duration was 30.57, 37.29 and 38.14 hrs in G1, G2 and G3 parities, respectively. Birth weight of kids in the G2 and G3 parities was significantly ($P<0.05$) higher than G1 parity. However, weaning weight of kids in G2 and G3 is recorded better ($P>0.05$) weight than kids in G1 parity except single weaning weight of kids in G1 parity.

5.4.2. Productive finding

The average of evaluation daily milk yield during suckling period at 7 days and 30 days in G2 and G3 showed significantly ($P<0.05$) higher differences than those in G1. Also, the analysis data obtained insignificant in suckling milk amount at all evaluation periods. It is of interest to observe that milk harvest biweekly in G1, G2 and G3 does showed ($P>0.05$) similar trend of change in milk yield throughout different lactation weeks. The amount of milk harvest biweekly at amount 2 (included week 3 and week 4) was recorded significantly ($P<0.05$) higher in G3 than G2 but, the lowest significant values in G1. At amount 12 (included week 23 and week 24) of the lactation period, average daily milk harvest was significantly ($P<0.05$) higher for does in G1 than that for the G2 and G3 does. The analysis of data which present showed that the differences among the experimental parity groups in fat, protein and total solids content of Zaraibi dairy goat milk were significantly ($P<0.05$) during the whole lactation period (as early, middle and late). The highest values achieved in G3 (5th parity) followed by G2 (3rd parity) compared to G1 (1st parity).The highest significant ($P<0.05$) vales of lactation persistency percentage was observed in

G1 (73.03%) following by G2 (65.56%) and the lowest in G3 (58.13%). Hence, the 1st parity in the highest compared to advance of parities. The significant ($P<0.05$) were observed between area of udder cistern measurements and different parities on dairy goats in G1, G2 and G3 during three phases of lactation (early, middle and late). The G3 goats were achieved the highest udder cistern formation following by G2 goats compare to G1 goats through lactation stages.

General conclusion

It may be concluded that reproductive and productive performance of dairy Zaraibi goats was better in 3rd parity (G2) as well as 5th parity (G3) than 1st parity (G1). There was a tendency for reproductive and productive parameters improvement in dairy Zaraibi goats at advancing of age up to 5th (G3) parity which was the highest economically for farm managements. Hence, the 3rd parity (G2) type is determined potentially for reproductive and productive life of dairy goats and could be achieved with good breeding plan and ameliorated management selection programmes of dairy goats.