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## Use of Milk Progesterone Assays for Determining Reproductive Performance in Camel under Farming System

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### Abstract

The aim of this study is to use milk progesterone analysis as a new technique to detect the estrus and ovarian activity within four months postpartum in she-camel under farming system. Eight lactating she-camels, eight calves plus one mature male have been selected after calving and divided into two groups (G1 and G2) without male. In (G1) calves were completely restricted from suckling after 60<sup>th</sup> days. Calves of (G2) were freely suckling. Another eight lactating she-camels, eight calves and one mature male were divided into group (GY) which included she-camels in first and second parity, and group (GA) included those in third, fourth and fifth parity. Milk samples were collected from the second week up to the 4<sup>th</sup> month postpartum. Progesterone level was measured by radioimmunoassay (RIA) apparatus. Progesterone concentration fluctuated during the experiment period, and attained higher value of (7.84 ng ml<sup>-1</sup>) in the 8<sup>th</sup> week postpartum in G1 compared to 6.23 ng ml<sup>-1</sup> in the 2<sup>nd</sup> week in G2. Only two she-camel of G1 became pregnant during the first four months postpartum, when progesterone concentration continued to increase from the 12<sup>th</sup> week up to the end of the experiment. Progesterone concentration reached higher level of 8.83 ng ml<sup>-1</sup> in the 6<sup>th</sup> week postpartum of GA compared to 4.7867 ng ml<sup>-1</sup> in 16<sup>th</sup> week of GY. Only one she-camel of GY was suspected to be pregnant due to increased progesterone level from the 12<sup>th</sup> week up to end of experiment. The results revealed that the level of progesterone in milk of she-camel is a good indicator of ovarian activity within the first four months postpartum. Early estrus cycle and regulating fluctuation of milk progesterone of young rather than adult she-camel have been observed. The effect of restricted suckling, parity and age on progesterone concentration was insignificant ( $P > 0.05$ ). More studies are needed using hormonal treatment and new reproductive techniques in camel pastoral system.

**Keywords:** Camel, milk, parity, postpartum, progesterone, reproduction, sucking