This study was conducted to assess the effectiveness of estrous synchronization method in cow and to document the profile of progesterone and estradiol levels in three breed (Charolais, Brahman and local indigenous, Kedah-Kelantan) of cows. Twenty eight cycling cows received CIDR (controlled intravaginal drug release) insertion containing 1.38 g of progesterone with 10 mg estradiol benzoate (Day 0). The cows were given 2 mg i.m injection of estradiol benzoate (EB) 24 hours after CIDR removal (Day 8). A single insemination was carried out to each of the synchronized cow using rectovaginal method, 24 hours after EB injection (Day 9). Pregnancy diagnosis was carried out on day 60 post-insemination using rectal palpation. Blood samples were collected on day 0, 3, 7, 8, 9, 12 and 14 after CIDR insertion. Collected blood samples were centrifuged at 2,000 r.p.m for 10 minutes and blood plasma was stored at -20°C until assayed. Concentrations of progesterone and estradiol in blood plasma were assayed using RIA kits. Progesterone reached the highest level on day 3, 9.03 ng/ml (Brahman) and 27.16 ng/ml (Kedah-Kelantan). However, after CIDR removal on day 7, progesterone level continued to decrease and reached the lowest levels, 2.12 ng/ml (Charolais), 0.53 ng/ml (Brahman), and 0.47 ng/ml (Kedah-Kelantan). Insertion of CIDR (Day 0) caused a slight drop in estradiol levels in Charolais (0.00 pg/ml), Brahman (5.01 pg/ml) and Kedah-Kelantan (4.60 pg/ml) cows. Estradiol level reached the highest level, 77.26 pg/ml (Charolais), 34.20 pg/ml (Brahman) and 27.43 pg/ml (Kedah-Kelantan) after estradiol benzoate injection on day 8. It was concluded that synchronization method in the present study managed to give good percentage of pregnancy and similar pattern of progesterone and estradiol profiles regardless breed of the cows.

Key words: Progesterone, Estradiol, Exogenous progesterone, Estradiol benzoate, Synchronization, Cows.