

Synchronization of the Oestrus in Bovine Females of Meat under Conditions of Tropic Humid Mexican

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Abstract: In females bovine meat producers, to increase the efficiency of the artificial insemination it should be maximized the synchrony and fertility from the oestrus when manipulating the cycle of the oestrus. In this study the effectiveness of two programs of oestrus synchronization was evaluated by means of progesterone, for these 400 cows of the races were used Brahmin, Nellore and their cross, which were divided in two groups. To the group 1, with 200 animals, they were inserted the device intravaginal progesterone liberator (CIDR) with duration of 10 days, to the moment of the one implants 2 mg of stradiol benzoate it was applied (BE) i. m., the day 8 were applied 2 mL. of cloprostenol i. m., he/she retired the one it implants and at the 24 hrs it was applied 1mg. of BE, i. m. and they registered the cows that presented oestrus. To the group 2, with 200 animals, they were administered an it implants subcutaneous (crestar) on the external back of the right ear, it remained 10 days, to the moment of the one implants they were applied 2 mL. of norgestomet and stradiol valerate i. m., later on a day 10 when moving away the one implant, they were applied 1.2 mg of PMSG i. m. and they registered the cows that presented oestrus. The observation of oestrus behaviour was made at different hrs 30, 48 and 56. Later on, you proceeded to inseminate all the cows and after 3 months he/she was carried out the gestation diagnosis by means of rectal palpation. In cows with the treatment CIDR to the 56 hrs. it was bigger the presentation of oestrus signs in 38% and the gestation percentage was of 78.18%. With the treatment crestar, one can observe that the oestrus percentage to the 56 hrs. it was of 30% and that of gestation of 65.22%. The percentages of empty cows for CIDR were of 21.82% and crestar of 34.78% stops. In conclusion, under the conditions of this work, you can indicate that the best results, as for the oestrus presentation and percentage of gestations, were presented in the animals treaties with the device CIDR, incomparison with those to which were administered the one crestar implants.

Key words: Control of the oestrus, bovine, meat, progesterone, CIDR, crestar

INTRODUCTION

The handling and economic efficiency in the systems of livestock production of it puts on weight it is usually seasonal and naturally it is more probable a benefit when he/she shortens the interval among childbirths that which can be achieved by means of of the oestrus synchronization^[1]. The programs of oestrus synchronization in the meat livestock can optimize the work during the conception season and childbirths and this way to produce more uniform calves in age and weight^[2].

The conception should happen approximately 85 days after giving birth to, in cows that maintain intervals of annual partition, since if an anestrus persists post childbirth when beginning the conception season, there will be a delay in the cows that fail when conceiving

during this season, being increased this way the rate of waste and diminishing the gain of the producers. The treatments for the oestrus synchronization should induce it inclusive in cows anoestrus post childbirth and therefore, to improve the reproductive efficiency of these animals^[2].

The progesterone use is an advantage for the oestrus control, in the induction of cycles in cows anoestrus and heifers^[3]. The administration of exogenous progesterone suppresses the folliculogenesis through negative feedback inhibiting the axis hipotalamus-hypophysis-gonade. The progesterone commonly intravaginalmente is administered by means of devices like the CIDR or PRID, subcutaneously with you implant of norgestomet and vocally with melengestrol Acetate (MGA). During the treatment with progesterone, to the body lute he/she is allowed a spontaneous regression or can it also be

Table 1: Percentage of animals that presented oestrus in the programs CIDR and crestar

Hours of oestrus presentation	Percentage of cows hat presented toestrus. For each synchronization program	
	CIDR	Crestar
30 h	20%	15%
48 h	33.7%	25.5%
56 h	38%	30%

induced with the administration of PGF₂α consequently when moving away the administration of the progesterone it is allowed the reabsorption or folliculogenesis and a subsequent ovulation. Only compared with the use of PGF₂α is the use of exogenous progesterone in a synchronization of more precise oestrus in the bovine livestock^[4].

The objective of this work was to value the success of two programs of oestrus synchronization in bovine females under conditions of tropic humid Mexican.

MATERIALS AND METHODS

The present work was carried out in a Unit of Bovine Production under conditions of humid tropic, in the State of Campeche, Mexico. 400 were used you vacate militaries of the races Brahmin, Nellore and their cross with Swiss livestock, they were felt to verify their ovarian state. The animals were divided in two groups, the group 1 (n = 200) for the program CIDR and the group 2 (n = 200) for the program crestar.

To the cows of the group 1, they were administered the device intravaginal progesterone liberator (CIDR) with 1.9 grs. of progesterone and the same day 2 mg of stradiol benzoate i was administered. m.; the day 8 were administered 2 mL. of cloprostenol (similar of the PGF₂α) I. m.; the day 10, did the one retire it implants and at the 24 hrs later was administered 1mg. of stradiol benzoate i. m. and they registered the animals that presented oestrus, later at the 56 hrs, they were inseminated.

To the cows of the group 2, they were administered an it implants subcutaneous, Crestar with 3 mg. of norgestomet, synthetic progesterone; to the moment of the one implants, 2 mL was administered. of norgestomet and stradiol valerate i. m.; later on, a day 10, when moving away the one implant, 1.2 mg of PMSG i was administered. m., you proceededed to register the animals that presented oestrus and at the 56 h later was carried out the insemination.

The oestrus detection was carried out for visual observation of the animals in periods of 4 h, registering data at the 30, 48 and 56 h after retired implants them.

He diagnoses of gestation it was carried out by rectal palpation to the 3 months after the insemination, the

results were analyzed to obtain the percentages of female pregnant in each one of the programs.

RESULTS

In the Table 1, the percentages of animals are presented that presented oestrus for the programs CIDR and crestar.

In the Table 2, the percentages of animal pregnant are indicated in each one of the programs.

DISCUSSION

In the animals with the treatment CIDR, the presentation of the characteristic signs of oestrus went bigger at the 56 h, in 38%, I Square 1; later on, when it was carried out the gestation diagnosis the percentage it was of 78.18%, I Square 2 of the total of animals with this treatment, these results are relatively smaller in comparison with recent works as those of Stevenson *et al.*,^[5] and Martínez *et al.*,^[6] in those that the oestrus percentage was of 45.3% and that of gestation of 85.6%, these authors indicated that the treatment with CIDR works in an efficient way in spite of being used in animals in those that one doesn't know its ovarian state or that they have presented periods of anoestrus. The results as for the percentages of gestations are not very favourable, due to maybe to that has been indicated^[7] that when using CIDR in animals outside of the phase luteal, he/she can that a dominant follicle persists, resulting in that when removing the device intravaginal, decrease the fertility in the ovulation. On the other hand, it has been observed that the animals treaties with progesterone in absence of body lute, present quicker oestrus that those in those that the treatment coincides with the presence of a body lute. This characteristic can obey to that the animals that present persistence follicular have bigger stradiol concentrations that the cows that have a dynamic normal follicular^[8].

As for the results with crestar, one can observe equally that at the 56 hrs, the oestrus percentages were of 30% (Table 1) and those of gestations of 65.22% (Table 2) of the total of animals treaties, for this treatment these results are relatively low compared with works like the one of Mwaanga *et al.*,^[9] in those that the oestrus presentation was of 50% and that of gestation of 75% in having won milkman under conditions of temperate climate. On the other hand^[10] they have indicated that the administration of crestar in commercial dose for the oestrus synchronization in bovine, it can cause the development of dominant ovarian follicles that you/they grow more than the normal thing; becoming persistent,

Table 2: Percentage of animal pregnant for the programs CIDR and crestar

Program	Gestants	Empties	Total of animals
CIDR	78.18%	21.82%	200
Crestar	65.22%	34.78%	200

cystic or anovulatorios, that which causes a low fertility, as consequence of a more advanced state of the development of the ovocyte at the time of the ovulation, or of the embryonic death as a result of the deterioration oviduct, or to bad uterine conditions, or of some combination of these, subsequent to the insemination. The influence of climatic factors is also causing of you disorder climatic extremisms that rebound in estresante in the animal; the photoperiod, the humidity and food supply influence in a negative way in the reproductive efficiency^[11] and therefore in the answer to synchronization programs.

CONCLUSION

In this study, you can indicate that the best results, as for the oestrus presentation and percentage of gestations, were presented in the animals treaties with the device CIDR, in comparison with those to which were administered the one Crestar implants.

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