

Receptal® – flexible solution, trustworthy partner



Indications for Receptal® dose in various indications in cattle

Indication	Dose
Induction of ovarian activity in post partum period and treatment of anoestrus	5.0ml/animal
Induction of ovulation in estrus synchronization programs	2.5ml/animal
Improvement of conception rate with administration at AI <ul style="list-style-type: none"> • Treatment of delayed ovulation • Prevention of delayed ovulation 	2.5ml/animal at the day of AI
Improvement of conception rates with administration post insemination	2.5ml/animal at 11-12d post insemination
Treatment of Cystic Ovarian Disease	5.0ml/animal

Receptal®

Description: Gonadotrophin-Releasing Hormone Analogue. **Composition:** Solution for injection: 1 ml contains 0.0042 mg buserelin acetate equivalent to 0.004 mg buserelin. **Indications: Bovine:** For the treatment of infertility linked to follicular cysts. For the improvement of pregnancy rate, following injection at the time of AI or during the luteal phase following AI. For the synchronisation of oestrus and ovulation (allowing fixed time AI) in conjunction with prostaglandin F2α or progestagen administration. **Mare:** For ovulation induction when a mature follicle is present, thereby synchronizing ovulation more closely with mating in mares. For the improvement of conception rate after administration during the late luteal phase following mating or AI. **Rabbits:** Induction of ovulation in rabbit does. Improvement of conception rate. **Dosage and administration: Cattle:** ovulation induction, improvement of fertility-2.5ml, treatment of cysts and anoestrus -5ml, **Horses:** 10ml; **Rabbits:** 0.2ml. The preferred route of administration for Receptal is intramuscular injection, but it may also be injected intravenously or subcutaneously. **Contra-indications:** None. **Side effects:** Unknown. **Interactions:** None **Presentation:** Vials of 2.5ml, 10 ml and 50ml. Not all pack sizes may be marketed.

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Receptal®

Powerful support of fertility



Receptal®, a synthetic GnRH analogue has been part of your everyday veterinary practice for many years. This product has always been accompanied by the knowledge, expertise and experience of our Company, the leaders in reproduction management in animals. Now as unified MSD Animal Health we would like to present to you this practical overview of the properties and indications that make Receptal® such a flexible and efficient tool in reproduction management in cattle.

GnRH – various effects through an induction of LH release

In most cases of GnRH use for reproduction management in cattle, its ability to induce a massive LH release from the pituitary gland brings the expected results. This so called preovulatory LH peak facilitates the final

stage of follicular maturation, stimulates ovulation and supports the formation of the early corpus luteum.

Buserelin – the advantage of potency

Buserelin, a synthetic analogue of natural GnRH and the active ingredient

of Receptal®, is characterized by very high potency. Potency is the ability to stimulate the release of LH from the pituitary gland. It is estimated that the relative potency of buserelin is almost 50 times higher than that of natural GnRH, gonadorelin (Chenault et al., 1990). This ability of buserelin to induce the LH

release of such magnitude is extremely important as it is also a measure of its capability to induce ovulation and stimulate early luteal function. These effects determine the efficacy of GnRH treatment in practically all indications in reproduction management in cattle.

Prolonged post partum anoestrus in dairy cows

Problem: LH deficiency, dominant follicle arrested after deviation.

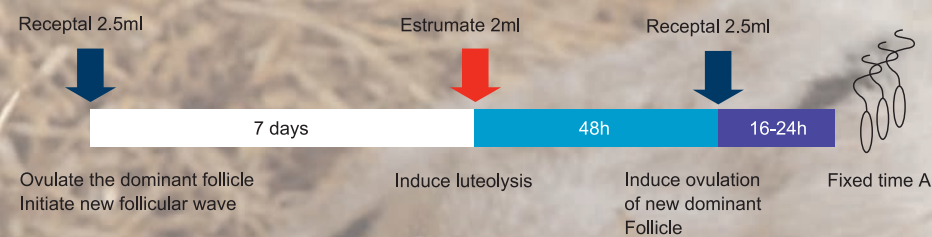
Treatment: Receptal® 5ml/animal in animals not seen in estrus >35d post calving.

Mechanism: Stimulation of LH production by pituitary gland, culminating in preovulatory peak and ovulation.



Oestrus synchronization with Ovsynch

Why Receptal®: the efficacy and synchrony of the system depends on the first ovulation induction (Vasconcelos et al., 1999). With the use of a GnRH analogue of such a high potency the probability of ovulation induction is maximized.



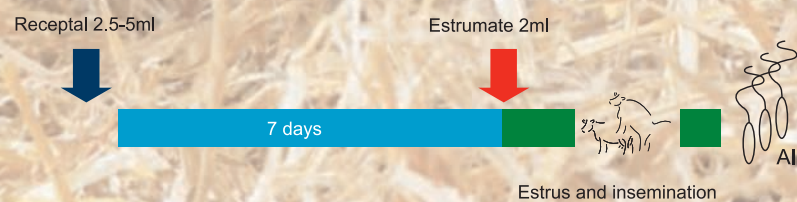
Treatment of COD

Problem: Cystic Ovarian Disease (COD) is often found in high producing dairy cows. Inadequate LH release by the pituitary gland, associated with a negative energy balance is thought to be

the main cause (VanHolder et al., 2006).

Treatment: Administration of Receptal® 5ml/animal preferably followed by PGF2α.

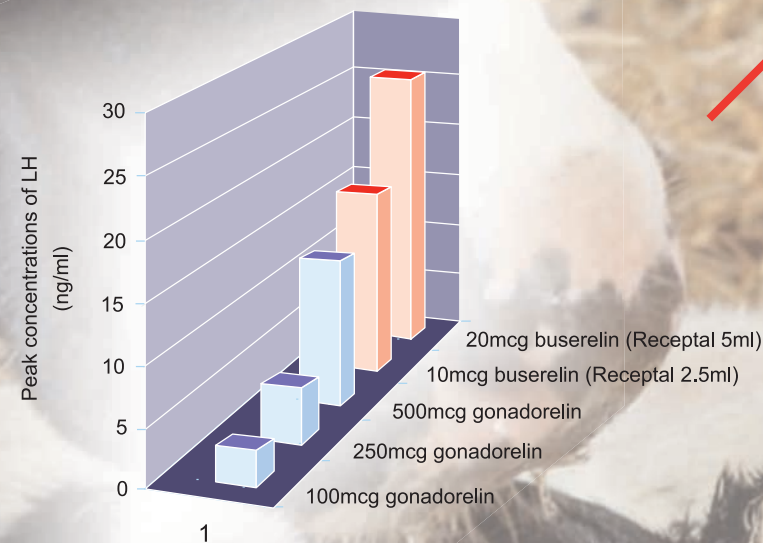
Rationale: The main goal of modern COD treatment aims at the induction of



final maturation and ovulation of the new follicular wave that was arrested during development because of inadequate LH stimulation (Bartolome et al., 2005).

Why Receptal®: In a situation of inadequate LH and in most cases GnRH production, the highest quality of exogenous GnRH substitution is crucial. Buserelin provides a potent stimulation of LH release maximizing the treatment success rate.

Potent GnRH stimulation → efficient ovulation induction and luteotropic action



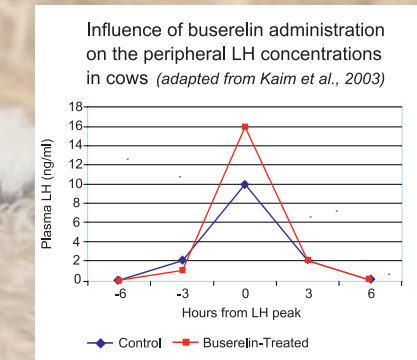
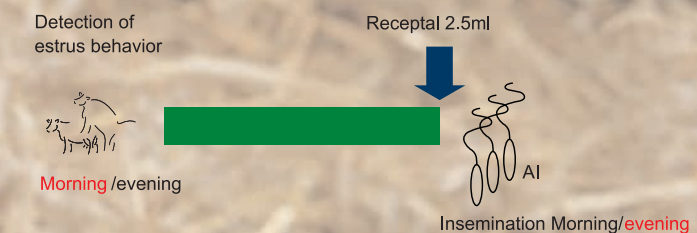
LH peak levels released after the administration of Receptal®(buserelin) are much higher than those released after stimulation with gonadorelin (Chenault et al., 1990).

Induction of ovulation at AI – prevention of delayed ovulation

Problem: In high producing dairy cows delayed ovulation is an important problem. Delayed ovulation is associated with decreased oocyte quality and early embryonic losses.

Treatment: Administration of Receptal® 2.5ml at the time of AI.

Rationale: Additional stimulation with GnRH ensures timely LH peak of adequate quality (Meta-analysis provided by Morgan&Lean 1993).



Why Receptal®: High potency of buserelin provides optimal stimulation of LH release and maximizes chances for timely ovulation.

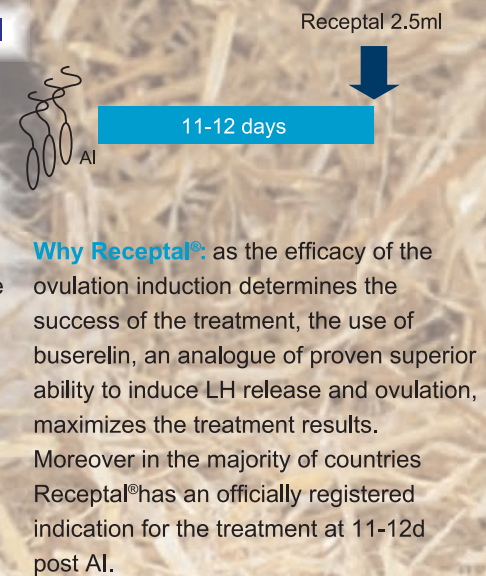
Remarks: Demonstrated to be especially beneficial in dairy cows exposed to high ambient temperatures (Kaim et al., 2003).

Fertility improvement post AI

Problem: In high producing dairy cows early embryonic mortality (EEM) can account for 20-45% of total pregnancy failures (Humblot et al., 2001). Low progesterone concentrations caused by elevated steroid metabolism in the liver and precocious luteolysis are listed as the main contributing factors.

Treatment: Administration of Receptal® (2.5ml) at 11-12 days post AI.

Rationale: Administration of GnRH at 11-12 days post AI leads to ovulation of all responsive luteal phase follicles and the creation of additional corpora lutea. (Meta analysis provided by Peters et al., 2000).



Why Receptal®: as the efficacy of the ovulation induction determines the success of the treatment, the use of buserelin, an analogue of proven superior ability to induce LH release and ovulation, maximizes the treatment results.

Moreover in the majority of countries Receptal® has an officially registered indication for the treatment at 11-12d post AI.

References:

- Chenault et al., (1990) Theriogenology 34:81-98
- Humblot (2001) Theriogenology 56:1417-1433
- Kaim et al., (2001) J Dairy Sci 86:2012-2021
- Morgan & Lean (1993) Austral Vet J 70:205-209
- Peters et al., (2000) Theriogenology 54:1317-1326
- Vanholder et al., (2006) Reprod Nutr Dev 46:105-119
- Vasconcelos et al., (1999) Theriogenology 52:1067-1078