

Vol. 54, No. 1 SPRING 2020



Moraxella bovoculi Bacterin

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- 8 Different M. bovoculi Isolates
- Cost Effective for All Cattle Herds
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Addison Biological Laboratory, Inc. announces the approval of the world's first commercial Moraxella bovoculi vaccine for the prevention of pinkeye in cattle. This USDA conditionally licensed product is the first of this kind. Previously the only method of prevention against *Moraxella bovoculi* was autogenous services. This vaccine signifies a breakthrough in convenience for the large number of veterinarians and herd owners battling the challenging problem of pinkeye caused by *Moraxella bovoculi*. This product license is conditional; efficacy and potency have not been fully dem<u>onstrated</u>.



IORAXELLA BOVOCULI

on Biological Laborator Fayette, Missouri 65248 MORAXELLA BOVOCULI BACTERIN

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From the LEADERS in pinkeye prevention!



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Vol. 54, No. 1 Spring 2020





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Notice to Readers

All statements, opinions and conclusions contained in articles in *The Bovine Practitioner* are those of the author(s), and are not necessarily those of the American Association of Bovine Practitioners (AABP) unless specifically approved by the AABP Board of Directors.

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PREGNANT REGNANT X

CONGRATS, IT'S A CALF! AGAIN!

It's easy to be confident that your cows will get pregnant when you use Cystorelin[®] (gonadorelin) and Synchsure[®] (cloprostenol sodium) together. They're an effective combination for reproductive efficiency. So, after use, this test is more of a formality.

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IMPORTANT SAFETY INFORMATION FOR CYSTORELIN: Do not use in humans. Keep this and all drugs out of the reach of children.

IMPORTANT SAFETY INFORMATION FOR SYNCHSURE: FOR ANIMAL USE ONLY, NOT FOR HUMAN USE. KEEP OUT OF REACH OF CHILDREN. Women of child-bearing age, asthmatics, and persons with bronchial and other respiratory problems should exercise extreme caution when handling this product. In the early stages women may be unaware of their pregnancies. SYNCHSURE is readily absorbed through the skin and may cause abortion and/or bronchospasms: direct contact with the skin should therefore be avoided. Accidental spillage on the skin should be washed off immediately with soap and water.



Cattle First.





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By Meria

ment of cystic ovaries in dairy cattle

For use with cloprostenol sodium to synchronize estrous cycles to allow for fixed time artificial insemination (FTAI) in lactating dairy cows and beef cows.

CAUTION: Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian.

DESCRIPTION: CYSTORELIN® is a sterile solution containing 43 mcg/mL of gonadorelin (GnRH) as 50 mcg/mL gonadorelin diacetate CYSTORELIN® is a sterile solution containing 43 mcg/mL of gonadorelin (is a Chi Storicchini ta securito soutoni outenaming vo incariniti o gloratorem (chini nje si o incarine gonadorem ratecate Itrahydrate suitable for intramescular or intrarenous administration according to the indication. Gonadorelli is a decapetite composed of the sequence of animo acids— 5-cor0-to-1Ks:Tp-Ser-Ty-Gi-Leu-Arg-Pro-Giy-NH2— a molecular weight of 1374.48 and empirical formula CagH₃H₃/H₃/D₃. The diacetate tetrahydrate ester has a molecular weight of 1374.48 and empirical formula CagH₃H₃/O₂,

Each mL of CYSTORELIN contains:	00 01 11 21	
Gonadorelin diacetate tetrahydrate (equ	ivalent to 43 mcg gonadorelin)50 r	ncg

Benzyl Alcohol ... Sodium Chlorido

Water for Injection... pH adjusted with potassium phosphate (monobasic and dibasic).

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INDICATIONS FOR USE:

CYSTORELIN is indicated for the treatment of ovarian follicular cysts in dairy cattle. Ovarian cysts are non-ovulated follicles CYSTORELIN is indicated for the treatment of ovarian follicular cysts in dairy cattle. Ovarian cysts are non-ovulated follicles with incomplete luteinization which result in nymphomania or irregular estrus. Historically, cystic ovaries have responded to an exogenous source of LH such as human chorionic gonadotrophin. CYSTORELIN initiates release of endogenous LH to cause ovulation and luteinization

To cuaso ortaneort and summarization in the second se

DOSAGE AND ADMINISTRATION:

Cystic Ovaries The intravenous or intramuscular dosage of CYSTORELIN is 100 mcg gonadorelin diacetate tetrahydrate (2 mL) per cow.

The intraventos on intraventos can average or of of other of the generative state tearly state (c mL) per cow. Reproductive Synchrony The intramuscular dosage of C/STORELIN is 100 mcg gonadorelin diacetate tetrahydrate (2 mL) per cow, used in repro-ductive synchrony roprograms similar to the following: Administer the first C/STORELIN injection (2 mL) at Time 0. Administer 500 mcg cloprostend (as cloprostend socium) by intramuscular injection 6 to 8 days after the first CY-STORELIN injection.

- Administration of the second CVSTORELIN injection (2 mL) 30 to 72 hours after the cloprosterol sodium injection. Perform FTAI 0 to 24 hours after the second CVSTORELIN injection, or inseminate cows on detected estrus usin standard hedr practices.

3. 4.

WARNINGS AND PRECAUTIONS: Not for use in humans. Keep out of reach of children.

WITHDRAWAL PERIODS: No withdrawal period or milk discard time is required when used according to the labeling. The Safety Data Sheet (SDS) contains more detailed occupational safety information. To obtain a SDS or for technical assis-tance, contact Merial at 1-888-637-4251. To report suspected adverse drug experiences, contact Merial at 1-888-637 4251. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA VETS, or http://www.fda.gov/AnimalVeterinary.

PHARMACOLOGY AND TOXICOLOGY:

PHARMACOLOGY AND TOXICOLOGY: Endogenous gonadrofini is synthesized and/or released from the hypothalamus during various stages of the bovine estrus cycle following appropriate neurogenic stimuli. It passes via the hypothyseal portal vessels, to the anterior pituitary to effect the release of opraothorpsin (s.g., L.H., FSH), Synthetic gonadorelin administered intravenously or intramuscularly also causes the release of endogenous LH or FSH from the anterior pituitary. Gonadorelin dicatate tetrahydrahe has been shown to be safe. The LDS for mice and rats is greater than 60 mg/kg, and for dogs, greater than 600 mg/kg, respectively. No adverse effects were noted among rats or dogs administered 120 mg/k kg/day or 72 mg/kg/day intravenously for 15 days. It had no adverse effects on heart rate, blood pressure, or EKG to unanesthetized dogs at 60 mcg/kg, in ansethetized dogs it did not produce depression of myocardial or system hemodynamics or adversely affect coronary oxygen supply or myocardial doxygen requirements.

in produced wayeer requirements. The intravence administration of 60 mcg/kg/day of gonadorelin diacetate tetrahydrate to pregnant rats and rabbits during organogenesis did not cause embryotoxic or teratogenic effects. Further, CYSTOFELIN did not cause irritation at the site of intramuscular administration in dogs with a does of Z areng/kg/day administered for seven (7) days. TARGET ANIMAL SAFETY

TARGET ANIMAL SAFETY: In addition to the animal safety information presented in the PHARMACOLOGY AND TOXICOLOGY section, the safety of CVSTORELIN was established ithrough the review and evaluation of the extensive published literature available for the use of gonadorelin-containing products.

or gonaporelin-containing products. The intramuscular administration of 1000 mcg gonadorelin diacetate tetrahydrate on five (5) consecutive days to normally cycling dairy cattle had no effect on hematology or clinical chemistrikes. In field studies evaluating the effectiveness of CYSTORELIN for the treatment of ovarian follicular cysts, the incidence of health abnormalities was not significantly greater in coxes administered OrSTORELIN than coxes administered a placebo injection.

The target animal safety of, and injection site reactions to, gonadorelin when used with cloprostenol sodium were evaluated during the conduct of effectiveness field studies. The incidence of health abnormalities was not significantly greater in cove administered gonadorelin than cover administered gonadorelino.

administered ponadorelin than cows administered a placebo injection. **CFFECTURESS:** The use of CVS10RELIN for treatment of ovarian follicular cycls in dairy cattle was demonstrated to be effective with a treatment does of 100 mcg opnadorelin diacetale tetrahytrata. The effectiveness of gonadorelin for use with cloprostend sodium to synchronize estrous cycles to allow for FTAI in lac-tating dairy cover was demonstrated in a field study at 10 different locations in the U.S. Four of the locations represented conditions that would typically cause heat stress in lactating cows. A total of 1607 healthy, non-pregnant, primparous or multiparous lactating dairy cover within 40-150 days postparturm were enrolled in the study. A total of 505 cover were administered gonadorelin (as the acetate salt) or sterile water for injection Day 7: 500 mcg opnostbene (is corporsten) sodium) Day 9: 100mcg opnadorelin (as the acetate salt) or sterile water for injection Day 0: 100mcg opnadorelin (as the acetate salt) or sterile water for injection Day 7: 500 mcg opnadorelin (as the acetate salt) or sterile water for injection Day 9: 500 mcg opnadorelin (as the acetate salt) or sterile water for injection Day 9: 500 mcg opnadorelin (as the acetate salt) or sterile water for injection Day 9: 500 mcg opnadorelin (as the acetate salt) or sterile water for injection Day 9: 500 mcg opnadorelin (as the acetate salt) or sterile water for injection Day 6: 500 mcg opnadorelin (as the acetate salt) or sterile water for injection Day 6: 500 mcg opnadorelin (as the acetate salt) or sterile water for injection Day 1: 500 mcg opnadorelin (as 1: 500 kmg) soparature water mole to FTAI in was significantly higher (P < 0.0001) in cows treated with opnadorelin olice astrosc yocles to allw of FTAI in bed cows was demonstrated in a field study at 10 different locations in the U.S. A tatal of 706 healthy, non-pregnant, primiparous or multiparous bed cows within 40-150 days postgarturm were enrolled in the study. A tatal 43 644 cows were

Fixed time AI was performed immediately after the Day 9 injection. Cover were evaluated for pregnancy on Day 55 \pm 5 are by trans-rectal ultrasound. Pregnancy rate to FIAI was significantly higher (P = 0.0006) in cows treated with gonadorelin (21.7%) than the regnancy rate to FIAI in cover treated with water (7.4%).

The effectiveness of a 2-mL does of CYSTORELIN delivering 100 mcg gonadorelin diacetate tetrahydrate (86 mcg go-nadorelin) for use with deprostents obdum to synchronize serbrus cycles to allow for FTAI in lactating dairy cows and beef cows was also demonstrated through references to scientific literature. HWM SILPD LEP.

Cows was also bemofstrated through references to scientific iterature. **HOW SUPPLIED:** CYSTORELIN is available in a concentration of 50 mcg/mL gonadorelin diacetate tetrahydrate (43 mcg/mL gonadorelin) pH adjusted with potassium phosphate (monobasic and dibasic). CYSTORELIN is supplied in multi-dose vias containing 10 mL and 30 mL of sterile solution. **STORAGE, HANDLING, AND DISPOSAL:** Store at or below 77°F (25°C). Brief excursions to 86°F (30°C) are permitted. Use within 6 months of first puncture.

NADA 098-379, Approved by FDA

Marketed by: Merial, Inc. Duluth, GA 30096-4640 U.S.A. © CYSTORELIN is a registered trademark of Merial. © 2017 Merial. All Rights ReservedItem No. 82830201

Synchsure (cloprostenol sodium)

By Meria

Prostaglandin Analogue for Cattle Equivalent to 250 mcg cloprostenol/mL

CAUTION: Federal law restricts this drug to use by or on the rder of a licensed veterinarian

DESCRIPTION:

UCSCHIPTION: SYNCHSURE (cloprostenol sodium) is a synthetic prostaglandin analogue related to prostaglandin F₂₆. SYNCHSURE is indicated for intramuscular uses at a two mL does to induce luteolysis in beef and dairy cattle. The luteolytic action of SYNCHSURE can be used to manipulate the estrous cycle to better fit certain management practices, to terminate pregnancies resulting from mismatings, and to treat certain conditions associated with prolonged luteal function.

USES OF SYNCHSURE

USES OF SYNCHSURE: Unobserved or Nondetected Estrus: If a mature corpus luteum is present, SYNCHSURE can be used to induce estrus. Estrus is expected to occur 2 to 5 days following injection. Treated cattle should be inseminated at the usual time following detected estrus or twice at 72 and 96 hours post injection if estrus detection is not possible or desirable.

Pyometra or Chronic Endometritis: Endometritis is inflammation of the uterus and pyometra is characterized by the lack of cyclical estrus behavior and the presence of a persistent corpus luteum. SYNCHSURE induces luteolysis which usually *corpus lute* results in eva uation of the uterus and a return to normal cycling activity within 14 days after treatment.

Mummified fetus: Induction of Iuteolysis with SYNCHSURE usually results in the expulsion of the mummified fetus from the uterus. (Manual assistance may be necessary to remove the fetus from the vagina). Normal cyclical activity usually follows.

Luteal Cysts: Luteal cysts may cause abnormal cycling patterns Treatment with SYNCHSUBE can restore normal ovarian 1 COWS activity by causing regression of the luteal cyst

Pregnancies from mismating: SYNCHSURE can be used to terminate unwanted pregnancies in cattle from 1 week after mating until about 5 months of gestation. The induced abortion is normally uncomplicated and the fetus and placenta are usually expelled 4 to 5 days after the injection. The efficacy of SYNCHSURE in inducing abortion decreases after 5 months of gestation, while the risk of dystocia and additional consequences increases.

Controlled Breeding: SYNCHSURE can be used to schedule estrus and ovulation for individual animals or a group of animals to control breeding times. SYNCHSURE can be used animats to control breeding times. SYNCHSURE can be used in controlled breeding programs through either single or double injection protocols. Only animals with a mature copus luteum should be treated with the single injection protocol to obtain a maximum response to the single injection. Prior to treatment, cattle should be examined rectally and found to be anatomically normal and nongenant. Before a controlled breeding program is planned, the producer and his consulting veterinarian should review the operation's breeding history, herd health and nutritional status and agree that a controlled breeding program is practical in that particular situation.

The use information provided here is not comprehensive. Talk to your veterinarian and consult the full prescribing information available at www.synchsure.com for further details on uses of SYNCHSURE.

SAFETY AND TOXICITY: AT 50 and 100 times the recommended dose, mild side effects may be detected in some cattle including increased uneasities, slight frohing, and milk ef down. The risk information provided here is not comprehensive. To learn more, talk to your veterinarian about SYNCHSUBC or call 1-888-637-4251. The full prescribing information can be found a www.smc/sure com. at www.synchsure.com

pregnant animals whose calf is not meant to be aborter

ildhearin age, asthmatics and persons with respiratory problems should exercise extreme caution with handling this product. In early stages, women may not be aware of their pregnancies. SYNCHSURE is readily absorbed through the skin and may cause abortion and/or bronchiospasms: direct contact with the skin should be avoided. Accidental spillage on the skin should be washed off immediately with soap and wate

possibility of post-rejection dacteria mechanic Aniuolot, erie app should be employed at the first sign of infection. The Safety Data Sheet (SDS) contains more detailed occupational safety information, For technical assistence, to request an SDS, or to report a suspected adverse event, contact Merial Technical Support at 1-888-637-4251. For additional information about adverse event reporting for animal drugs, contact FDA at 1-888-FDA-VETS, or http://www.fda.gov/AnimalVeterinary.

Rev 10/2016



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CONTRAINDICATIONS: SYNCHSURE should not be given to

WARNINGS: For animal use only. Do not use in huma Keep out of reach of Children. Women of childbear

PRECAUTIONS:

Careful aseptic techniques should be employed to decrease the possibility of post-injection bacterial infection. Antibiotic therapy