Rotavec Corona

THE ONLY VACCINE THAT PROTECTS AGAINST ROTAVIRUS, CORONAVIRUS AND E.COLI IN ONE SHOT
The Five Step Program

Keeping herd performance on track means preventing and controlling neonatal diarrhoea. Evaluating herd and farm management practices, properly diagnosing pathogens and analyzing colostrum quality and intake are essential steps in resolving this costly problem. Selecting the right prevention / treatment protocol is also critical to success.

> STEP 1
ASSESS PROBABLE CAUSES OF SCOURS

In the process of investigating a case of neonatal diarrhoea on a farm, a thorough discussion with the cattle producer about farm calf management and type of animals affected can already identify a list of possible causes of the scour problem.

Key areas for discussion
- Age of the animals affected
- Colostrum Management
- Calf feeding protocol
- Housing conditions
- Previous farm disease history
- Veterinary Health Plan

> STEP 2
UNDERTAKE FAECAL SAMPLING

Enteric conditions caused by infectious microorganisms can be diagnosed from fresh faecal samples. When sampling a herd the following should be considered:
- Sample a group of at least five affected animals
- Collect faecal samples from the animal and not from the floor

On site Diagnosis, an easy and quick option

On site kits give a diagnosis within minutes of collecting the samples. Pathogens that can be tested for are: Rotavirus, Coronavirus, E. coli and C. parvum.

<table>
<thead>
<tr>
<th>Agent</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Escherichia coli</em> (ECET)</td>
<td>1-5 days</td>
</tr>
<tr>
<td><em>Clostridium perfringens A/B/C</em></td>
<td>0-14 days</td>
</tr>
<tr>
<td><em>Cryptosporidium parvum</em></td>
<td>7-12 days</td>
</tr>
<tr>
<td>Rotavirus</td>
<td>4-21 days</td>
</tr>
<tr>
<td>Coronavirus</td>
<td>5-30 days</td>
</tr>
<tr>
<td><em>Giardia duodenalis</em></td>
<td>5-30 days</td>
</tr>
</tbody>
</table>

Causes of diarrhoea and age at which calves are mostly affected.
> STEP 3
EVALUATE COLOSTRUM INTAKE
Colostral antibodies provide local protection in the gut of the calf but a portion is also absorbed into the blood stream. The capacity for absorption of antibodies is high during the first hours after birth and disappears once the calf is 24 hours old. The quality of the colostrum feeding regime can be evaluated by measuring the level of IgG in blood. Values of less than 10 g/l are indicative of inadequate colostrum intake.

> STEP 4
MEASURE COLOSTRUM QUALITY
Inadequate colostrum intake can be the result of feeding poor quality colostrum. Colostrum quality can be measured using a colostrometer. The antibody level is measured in a sample of 250ml of colostrum. If colostrum does not contain sufficient antibody levels, action can be taken. Colostral antibodies can be boosted with vaccination.

> STEP 5
DEFINE AND IMPLEMENT A PREVENTION/TREATMENT PROTOCOL
Actions following the diagnosis of neonatal diarrhoea on a farm are at three levels:
- Treatment of affected animals: rehydration (IV/oral), antibiotic and/or C. parvum treatment, NSAID’S
- Colostrum management: corrective measures must be taken if problems are identified with the administration of colostrum to neonatal calves
- Prevention: implementation of vaccination protocols with Rotavec Corona and preventive use of halofuginone for the control of C. parvum

Antibody absorption in calves during the first 24 hours of life.
Rotavec Corona: High efficacy, outstanding convenience

Rotavec Corona features outstanding efficacy against the main viral and bacterial enteric pathogens while delivering true convenience. Its single shot formula and broad window of vaccination (from 12 to 3 weeks prior to calving) makes it exceptionally well-suited to group vaccination.

- High efficacy demonstrated under laboratory and field conditions
- Single shot primary course
- Convenient group vaccination possible with the broad window of vaccination (12 to 3 weeks prior to calving)
- Low dose volume. Only 2 ml per dose
- Easy intramuscular administration of the product
- A practical range of presentations: 5 and 20 doses
Rotavec Corona
Maternal Antibody Titres*

MATERNAL ANTIBODY TITRES IN COLOSTRUM FROM DAIRY COWS

Comparative evaluation of vaccination with Rotavec Corona and a second vaccine in the level of colostrum maternal antibodies of dairy cows.

MATERNAL ANTIBODY TITRES IN COLOSTRUM FROM BEEF COWS

Comparative evaluation of vaccination with Rotavec Corona and a second vaccine in the level of colostrum maternal antibodies of beef cows.

- Control
- Vaccine B
- Rotavec Corona

The importance of optimum colostrum management

A calf is born with no natural antibodies to fight enteric disease. The first milk produced by the cow is known as colostrum. It differs from normal milk in that it is richer in certain nutrients and contains high levels of antibodies. The administration of the right quantities of colostrum at the right time will reduce the vulnerability of the calf to different infectious pathogens.

Volume and quality of colostrum
- The quality and volume of the colostrum can be influenced by different factors: breed, duration of dry cow period, lactation, age of the dam, heat stress...
- The concentration of immunoglobulins in the colostrum decreases gradually during the first 24 hours after calving. The first colostrum has a higher concentration of immunoglobulins while colostrum collected 24 hours post calving contains very low levels.
- Vaccination of the dams with Rotavec Corona during the pre-calving period increases the level of antibodies against some of the most important enteric pathogens.

Administration of colostrum
- The optimum time for colostrum administration is the first 4 hours post calving. After the first 6 hours the absorption capacity of the gut decreases and disappears by the time the calf is 24 hours old. From that moment on the immunoglobulins in the colostrum administered are only effective in the intestinal lumen.
- 4 litres of colostrum should be administered in the first 6 hours of life. If possible continue with 2L /12h x 3 days or as long as possible.
- The colostrum should be defrosted and warmed up to 35-40°C immediately before feeding it to the calves. Temperatures above 60°C should be avoided as high temperatures destroy antibodies.
Storage of colostrum

- To facilitate management of colostrum in the herd, most farms need to store colostrum after collection. This can be done by refrigeration or freezing.
- Pasteurized and refrigerated colostrum can be stored for up to 10 days. Frozen colostrum can be stored for longer period (up to 1 year)
- It is not recommended to mix colostrum from different dams as this can contribute to the spread of certain diseases within the herd.
**Rotavec Corona**

THE SINGLE SHOT VACCINE AGAINST NEONATAL DIARRHOEA

- Single shot primary course
- Broad window of vaccination (12 to 3 weeks prior to calving)
- Low dose volume (2 ml)
- Intramuscular administration
- Range of presentations (5 and 20 doses)

**Rotavec Corona - Product Information**

*Presentation:* A white liquid emulsion vaccine for injection. Each 2 ml dose contains: Bovine rotavirus, strain UK-Compton, serotype G6 P5 (inactivated), a 1/4 dose of vaccine stimulates virus neutralising antibody titre ≥ 7.7 log₈/ml (guinea pigs). Bovine coronavirus, strain Mabus (inactivated), a 1/4 dose of vaccine stimulates an ELISA antibody titre: ≥ 3.41 log₈/ml (guinea pigs). E. coli F5 (K99) adhesion, 1/20 dose of vaccine stimulates an ELISA antibody OD₄₅₀> 0.64 (guinea pigs). Also contains light mineral oil 1:40 ml, aluminium hydroxide 2.45:3.32 mg, thiomersal 0.051 - 0.069 mg and formaldehyde ≤ 0.34 mg. Uses: For the active immunisation of pregnant cows and heifers to raise antibodies against E. coli adhesion (K99) antigen, rotavirus and coronavirus. While calves are fed colostrum from vaccinated cows during the first two to four weeks of life, these antibodies have been demonstrated to: reduce the severity of diarrhoea caused by E. coli F5 (K99), reduce the incidence of scours caused by rotavirus, reduce the shedding of virus by calves infected with rotavirus or coronavirus. **Dosage and administration:** Dose: Cows and heifers 2 ml. **Administration:** By intramuscular injection. The recommended site is the side of the neck. The bottle should be well shaken before any vaccine is withdrawn. A single injection should be given during each pregnancy between 12 and 3 weeks before calving is expected. **Colostrum feeding:** Protection of calves depends on the physical presence of colostum antibodies (from vaccinated cows) within the gut for the duration of the first 2-3 weeks of life until calves develop their own immunity. Thus it is essential to ensure adequate colostrum feeding for the whole of this period to maximise the efficacy of vaccination: 1) All calves must receive adequate colostrum from their dams within 6 hours of birth. Suckled calves will continue to receive adequate colostrum naturally by feeding from vaccinated cows. 2) In the dairy herd colostrum/milk from the first 6-8 milkings of vaccinated cows should be pooled. 3) The colostrum may be stored below 20°C but should be used as soon as possible as immunoglobulin levels may fall by up to 50% after storage for 28 days. Where possible, storage at 4°C is recommended. The calves should then be fed on this pool at the rate of 2½ to 3½ litres per day (according to body size) for the first two weeks of life. 4) Optimal results will be obtained if a whole herd cow vaccination policy is adopted. This will ensure that in calves the level of infection and consequent virus excretion is kept to a minimum and consequently the overall level of disease challenge on the farm is kept to a minimum. **Contra-indications, warnings:** Do not vaccinate unhealthy animals. No information is available on the concurrent use of this vaccine with any other. It is therefore recommended that no other vaccine should be administered within 14 days before or after vaccination with this product. Part used containers of the vaccine should be discarded within 8 hours of opening. **Side effects:** The oil adjuvant provides the convenience of a single shot vaccine and has been carefully chosen to minimise any consequent side effects. It may produce a detectable swelling at the site of injection in a proportion of animals. The injection site reaction gradually reduces in size until it is no longer detectable, usually 14 to 21 days after treatment. As with all vaccines occasional hypersensitivity reactions may occur. In such cases appropriate treatment such as adrenaline should be administered without delay. **Withdrawal period:** Zero days. **Operator warning:** To the user: If you inject yourself accidentally with this product, go at once to the nearest Accident and Emergency (Casualty) Department of a hospital and show the information printed below to the doctor (or nurse) on duty. **To the doctor:** Accidental self-injection with this oil-based product can cause intense vascular spasm which may, for example result in the loss of a digit. Expert PROMPT surgical attention is required and may necessitate early incision and irrigation of the injected area, especially where there is involvement of finger pulp or tendon sheaths. **Pharmaceutical precautions:** Store between +2°C and +8°C including during transport. Protect from light. Do not freeze. Rotavec Corona should not be mixed with other medicaments or vaccines. **Packaging Quantities:** 10 ml bottle (5 doses), 40 ml bottle (20 doses).