

Cryptosporidium parvum

Cryptosporidium parvum is an intestinal parasite that commonly causes calfhood diarrhea on dairy farms.



What's the Impact?



Recent research suggests that *C. parvum* is a common issue on many dairy farms¹⁻³.



An infection with *C. parvum* can often lead to diarrhea and changes in the intestine leading to reduced levels of nutrient absorption. More broadly, if a calf develops diarrhea, it can result in the following consequences^{4,5,6}:

- Reduced growth up to 3 months of age
- Increased risk of dying prior to weaning
- Increased age at first calving
- Reduced first lactation milk production

C. parvum is also zoonotic meaning that you could get this pathogen from your calves. Ensure that after working with calves, your hands are cleaned to make sure you do not get infected.

What Does it Cost You?

Canadian researchers estimate that each case of diarrhea will cost \$155⁷, based on labour and treatment costs as well as the cost of calf losses from diarrhea.

With 23% of calves on the average dairy farm having diarrhea⁴, an estimated cost of \$1,782 per year would result on the average Canadian dairy farm⁷ (assuming 100 milking cows). All costs listed in Canadian dollars.

Similar to MAP, transmission of *C. parvum* relies on the ingestion of feces from a shedding animal. Those shedding *C. parvum* can range from calves with diarrhea to adult cows that shed the parasite but show no clinical signs of disease.

Biosecurity Between Farms

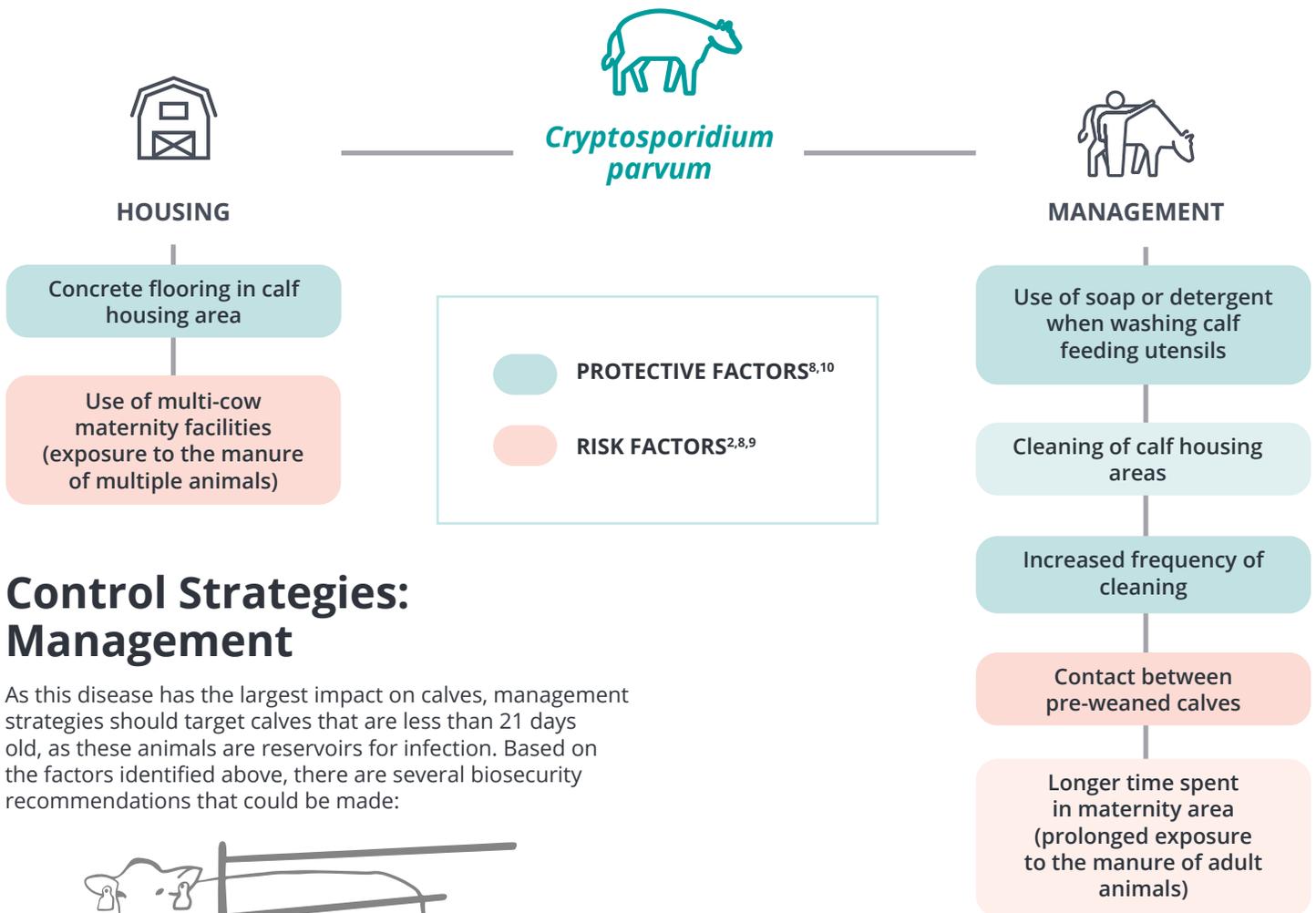
Unlike many of the other pathogens discussed previously, there has been little research into the transmission of *C. parvum* from farm to farm; however, it can be assumed that maintaining a closed herd will aid in preventing the occurrence of the disease. An additional measure is to ensure that visitors coming to your farm wear clean boots and clothing, and bring equipment that is not contaminated with manure, as *C. parvum* can survive very well in that environment and only a small dose can lead to an infection. In addition, ensuring that visitors do not interact with calves can also reduce the risk of disease transmission.



Ensure that visitors coming to your farm wear clean boots and clothing, and bring equipment that is not contaminated with manure.

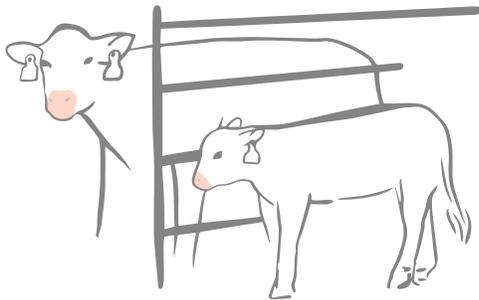
Biosecurity Within Farms

There have been many specific risk factors (factors that are associated with a higher level of *C. parvum*) and protective factors (factors associated with a lower level of *C. parvum*) that have been identified:



Control Strategies: Management

As this disease has the largest impact on calves, management strategies should target calves that are less than 21 days old, as these animals are reservoirs for infection. Based on the factors identified above, there are several biosecurity recommendations that could be made:



1. Minimize contact young calves have with older calves/heifers and adult feces

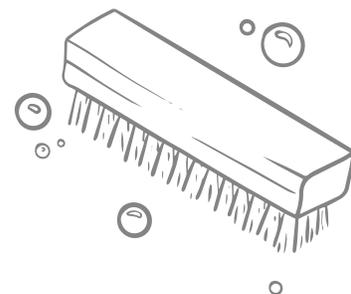
- When managing calves, it is recommended to work from the youngest age groups to the older calves, as these groups are more likely to shed pathogens that can be spread to young calves through gloves, clothing, equipment, etc.

2. Clean and disinfect calf housing area and feeding utensils between calves

- *C. parvum* is difficult to kill; frequent cleaning and contact with a disinfectant is required to reduce the number of infective parasites that can be ingested by calves

- There is also evidence that providing a period of rest in the calf pen between groups will reduce the amount of *C. parvum*¹¹ in the environment

Providing increased volumes of milk to ensure proper nutrition, excellent colostrum management practices and protocols, and frequent addition of clean/dry bedding can also help prevent infection, reduce risk, or increase calves' capacity to fight infection¹⁰.





Take Home Messages

C. parvum is commonly identified on dairy farms and can lead to diarrhea as well as a reduction in long-term growth. Maintaining excellent biosecurity, through cleaning and disinfection, working from youngest to oldest calves, and minimizing contact that visitors have with calves is a way to control this disease on your farm.



Work with your veterinarian to develop effective protocols and determine the best way to prevent *C. parvum* on your farm.

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