

# Mitigating the Risks of Embryonic Pregnancy Loss

Embryonic pregnancy loss is one of the greatest economic risks in dairy production systems and for cow/calf producers. Direct effects of embryonic mortality are reflected in reduced conception rates with consequent effects for efficiency of production and profitability.<sup>1</sup>

An embryonic pregnancy loss is a loss between fertilization and day 42 of gestation. Losses after that date are known as fetal losses.

When a cow tests positive for pregnancy at 28-42 days but then returns to heat later, it's sometimes assumed that the pregnancy test was a false positive, when in fact embryonic pregnancy loss is most often the culprit.

## Understanding the risks of early pregnancy losses

- Although fertilization rates are 90%-100%, only **70%** of cows are still pregnant at day 30 after breeding.<sup>2</sup>
- A pregnancy status obtained during days 28-42 runs a **3%-14%** risk of being an open status at a later date. This is known as late embryonic mortality.
- Even pregnancies confirmed as late as day 56 still run a risk of **over 7% pregnancy loss** after that date.<sup>3</sup>

## Some embryonic losses can be prevented

Pregnancy loss severely limits herd viability and production efficiency, as it is associated with longer calving interval, reduced availability of potential herd replacements, decreased milk production, increased insemination, veterinary and labor costs, and premature culling.<sup>4</sup>

**To reduce risk, it's important to understand the factors that contribute to embryonic and fetal loss and/or poor fertility:**



### Genetic abnormalities

These make up about 10% of embryonic losses.<sup>1,2</sup> They tend to occur within the first 2 weeks of pregnancy<sup>2</sup> but can also cause fetal mortality in later stages of gestation. Genetic testing can help identify problems.



### Nutritional factors

Toxins found in moldy feed or toxins prevalent in the local geography can decrease pregnancy rates.<sup>2</sup> Cows that are gaining weight just before conception have a higher chance of bringing the pregnancy to term.



### Heat stress

(Temperatures of 32.2°C-43.3°C and relative humidity greater than 40%) Heat stress contributes to higher rates of pregnancy loss and is especially dangerous in the days immediately following breeding.<sup>2</sup>



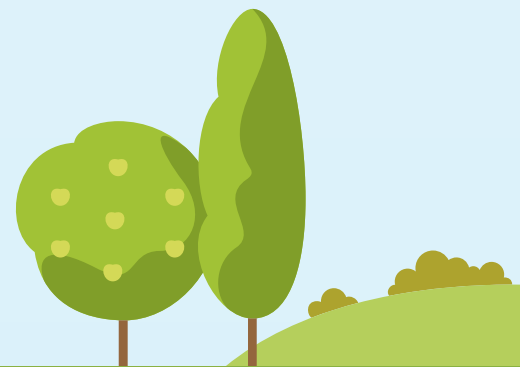
### Handling stress

Long distance transportation stress can increase embryo and fetal loss.<sup>5</sup> Heifers transported at 8-12 or 29-33 days after artificial insemination (AI) had lower pregnancy rates than those transported earlier, at 1-4 days after AI.<sup>6</sup>



### Infectious agents

Infectious agents such as viruses and bacteria can cause abortions or decreased fertility. Additional information on infectious agents can be found at [idexx.com/livestock](https://www.idexx.com/livestock).





## Confirm pregnancy with a second test

The economic benefits of early pregnancy testing **can be wasted if pregnancy is not confirmed** at a later date. The signs of embryonic loss are subtle. Ultrasound examination has shown that the embryo and its breakdown products are expelled through the cervix, but this either goes unnoticed or appears simply as a clear mucus discharge.<sup>7</sup> An open cow may remain on a pregnancy protocol, costing the producer unnecessary expense.

Too late detection of embryonic loss can postpone the calving timing, which can cause additional costs, especially in compact calving herds.

- A cow calving in May will generate £345 less profit than a cow calving in February, due to higher feed costs and reduced yield. For every 100 cows, compact calving is worth on average £8,615- £10,339 (£86 - £103 per cow/year).<sup>8</sup>

## Recommendations for reducing risks associated with embryonic pregnancy loss

- **Understand the risk of embryonic loss** and mitigate risk factors.
- **Confirm pregnancy with a second test** after the high-risk period is over. The rule of thumb is that as pregnancy progresses, the loss rate begins to decrease.

Taking steps to reduce risk factors for pregnancy loss, combined with early pregnancy diagnosis and later confirmatory testing, can help ensure the herd is at its most profitable.

**Adding an additional pregnancy check at day 90 costs only £3.50 per cow, but the savings can be substantial when a pregnancy loss occurs.**



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