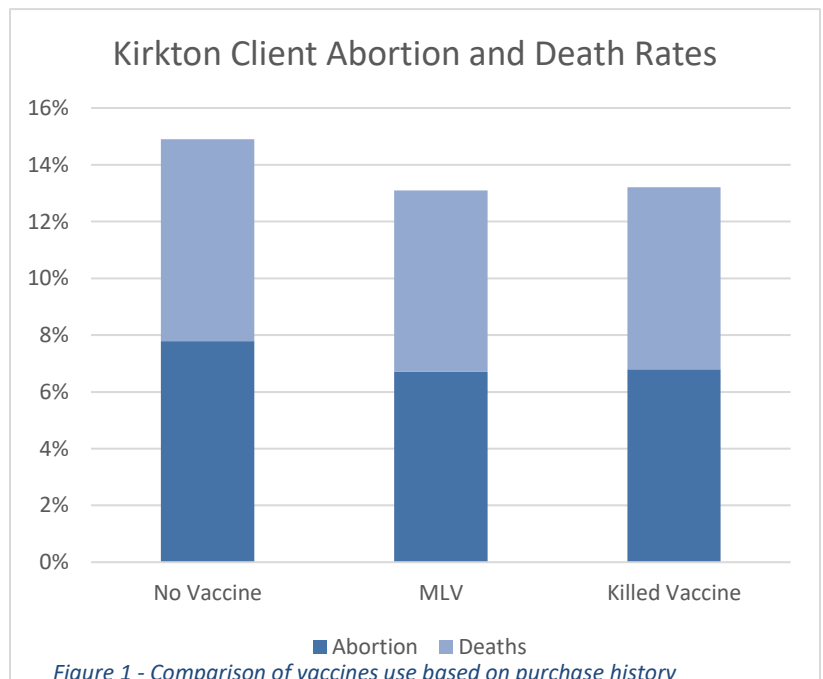

OCTOBER 2019 DAIRY NEWSLETTER

Is Vaccinating Actually Worth It?

- Vaccines protect against a wide variety of diseases that can lead to decreased production, abortion or even death
- Unvaccinated herds within the Kirkton Vet Clinic experience higher rates of abortion and death
- Youngstock must be on a strategic vaccination program pre-breeding so they enter the lactating herd fully-protected
- Consult with your herd veterinarian to develop a strategic vaccination program that works for your herd

Vaccines prevent a wide range of diseases that cause reduced production, fertility, abortion or death in dairy cows. There are a variety of vaccines that can protect against clostridial, mastitis, reproductive and respiratory diseases as well as calf scours and pink eye. This newsletter will focus on modified live (MLV) and killed vaccines used in your lactating herd to protect against abortion and respiratory disease. Examples of these vaccines include Bovishield and Express (MLV), or Triangle and Cattlemaster (Killed). The specific diseases that these types of vaccines protect against include; BVD, IBR, PI-3, BRSV and sometimes Leptospirosis.

A thorough records analysis was performed comparing abortion and death rates recorded by DHI on Kirkton herds. This data was correlated with retrospective vaccine purchases from the clinic. Herds were categorized into no vaccine, MLV or killed vaccines being used in the lactating herd. As illustrated in Figure 1, herds that are not vaccinating see higher abortions and death rates on their farms. The difference between groups in the graph might seem small, but it actually represents a 15% increase in abortions and deaths in herds that are unvaccinated. Death has an obvious





immediate economic impact, but some of the greatest lost income can result from abortion storms in unvaccinated herds. We have seen herds experience multiple abortions/day in outbreak scenarios. We have also witnessed outbreaks of pneumonia and often death in unvaccinated herds. Both of these outbreak scenarios result in thousands of dollars lost over a short period of time. This risk of economic ruin far outweighs the cost of vaccine at \$4-6/dose. In a 100-cow herd you are looking at approximately \$500 annually to maintain the herd vaccination status. If there was one fewer abortion or death as a result of vaccine protection, then you are further ahead. This quick economic assessment doesn't even take into account the higher production and fewer cases of pneumonia most vaccinated herds enjoy. Another interesting result from the data analyzed in Figure 1 is that there was no difference observed between herds vaccinated with MLV vs Killed vaccine. As long as youngstock enter the lactating herd fully protected, either MLV or Killed programs can work well in the lactating herd. Most youngstock are enrolled on MLV programs pre-breeding with a series of boosters at certain ages or high-risk periods (such as moving to a different barn).

Hopefully now you are convinced of the importance of a routine vaccine program on your farm. Next you need to decide which program works best for your system and management goals. In order to make an informed decision you need to understand how these vaccines work. MLVs require the non-virulent pathogens to replicate in the animal, whereas killed vaccines do not. This is why killed vaccines can be used in pregnant cows, whereas MLVs can cause abortion if used incorrectly in pregnant animals. Care must be taken when handling MLVs to protect the living organisms so the vaccines remain effective. Make sure to store MLV in the fridge, away from sunlight and use all doses immediately after mixing! To obtain an appropriate immune response from killed vaccines, these products contain adjuvants (oil, saponins and aluminum hydroxide) to help stimulate the immune system to recognize the killed organism in the vaccine. Most killed vaccines require a booster 2-4 weeks after the initial dose, then can be given annually. The inclusion of adjuvants in killed vaccine can increase the risk of vaccine site swelling.

If vaccine compliance is an obstacle for your farm, we offer veterinary technician services to visit your farm and complete the vaccinations on a routine basis. Do not hesitate to contact the clinic if you wish to be enrolled on the technician vaccinating program. Your herd veterinarian can develop a specific vaccine program for your herd. Do not hesitate to ask them some questions so you can limit the risk of disease outbreaks and ensure your herd is fully protected going forward.