

# MLV Reproductive Research

*Research re-evaluates effect of modified-live vaccines on beef females' reproductive performance.*

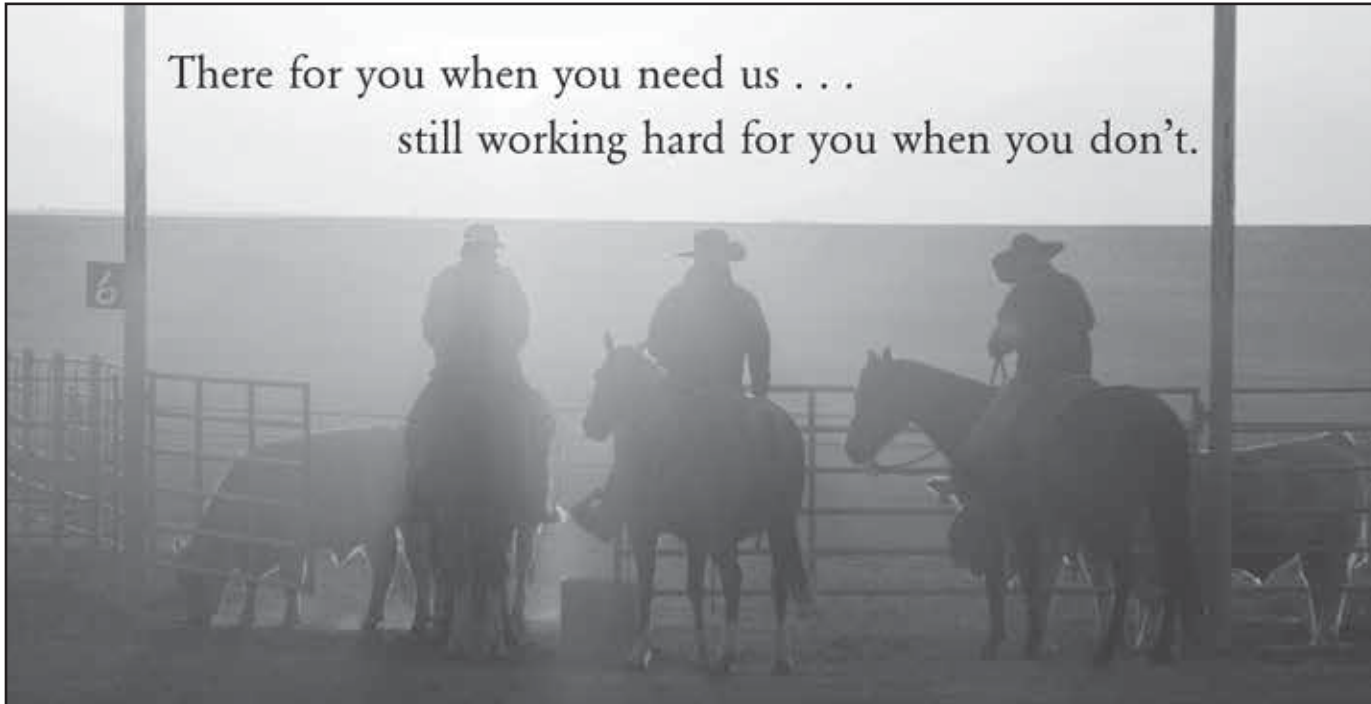


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by **KINDRA GORDON**, *field editor*

What management steps can producers take to improve reproductive efficiency in heifers and cows? This is a question to which South Dakota State University (SDSU) Associate Professor and Extension Beef Reproductive Specialist George Perry is continuously seeking answers. Perry has long been an advocate that even small gains of 5% to 10% in reproductive efficiency can translate to more calves born — and more profit potential for producers.

Most recently, Perry and his colleagues at SDSU have been evaluating the effect of vaccinations against infectious diseases, specifically bovine viral diarrhea (BVD) and infectious bovine rhinotracheitis (IBR), and the resulting impact on reproductive efficiency. Perry shared highlights from their research findings with those attending the 2017 Range Beef Cow Symposium (RBCS) hosted in Cheyenne, Wyo., Nov. 28-30.

Many current management protocols have suggested that inactivated (killed) and modified-live virus (MLV) vaccines can both be safely administered to replacement females 30 days prior to the start of the breeding season and as an annual booster to cows. Plus, conventional wisdom has suggested the MLV actually provided better immunity protection.

However, Perry shared a review of several reproduction studies with RBCS attendees suggesting administration of the MLV vaccine, even when given at labeled prebreeding intervals, may negatively



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George Perry shared with RBCS attendees a review of several reproduction studies suggesting administration of the MLV vaccine, even when given at labeled prebreeding intervals, may negatively affect reproductive parameters compared to cattle vaccinated with inactivated vaccines. Additionally, research indicates the MLV vaccine does not appear to offer superior immunity protection.

affect reproductive parameters compared to cattle vaccinated with inactivated vaccines. Additionally, research indicates the MLV vaccine does not appear to offer superior immunity protection.

With this new research coming to light, more investigation is needed, and Perry and his colleagues are pursuing additional research. In the meantime, Perry shared this advice with producers, "Modified-live vaccines have their place to prime the immune system."

He suggested an MLV vaccine is best administered to calves at weaning. Then, for replacement females prebreeding, Perry suggests switching to an inactivated/killed vaccine. For the cow herd, Perry advises using a killed vaccine booster annually for disease protection.

He noted that this protocol — using an MLV vaccine at weaning and an inactivated vaccine prebreeding — activates both sides of the immune system.

That said, Perry called it "critical" for producers to gain input from their herd veterinarian before making changes to their vaccination products or timing.

He noted, "Prevention needs differ among herds and depend on the virus loads that herds are exposed to."

He also explained that none of the prebreeding studies from which he shared data were carried out in the face of disease challenge and did not address the question of protection in the face of an infectious reproductive disease exposure.

Perry advised producers to monitor future research findings to help determine the best balance to achieve appropriate disease protection and minimize harmful effects from the vaccines themselves.

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