



“Comparison of immune response and respiratory disease-sparing effect of homologous and heterologous prime-boost vaccine programs in beef calves”

GETTING THE MOST OUT OF VACCINE PROGRAMS

PROJECT NO.: ANH.13.18

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Background: Vaccine development is very costly. But what if there was a way to make currently available vaccines more effective? There is some evidence that heterologous vaccine protocols that use one kind of vaccine for the initial vaccination, and a different kind of vaccine for the booster (e.g. a modified live vaccine for the initial calfhood vaccination and a killed vaccine for the booster at weaning) may provide better protection than a homologous vaccine protocol that uses the same modified live vaccine (or same killed vaccine) for both the initial and booster vaccinations.

Objectives: The objectives of this study are to:

1. Compare the disease sparing effect of heterologous and homologous vaccine protocols in a controlled study using a challenge model that contains multiple respiratory viruses.
2. Compare the effectiveness of the protocols in reducing BRD morbidity, mortality, and any effect on average daily gain in a large-scale field study.

Implications of the Research: Vaccination strategies that allow us to get maximum effectiveness out of currently available vaccines could improve animal health and welfare by providing better immune protection. A lowered incidence or severity of BRD also reduces treatment costs and the need to use antibiotics.

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