

Figure 10. Response to intra-nasal vaccines in the absence of maternal antibodies.

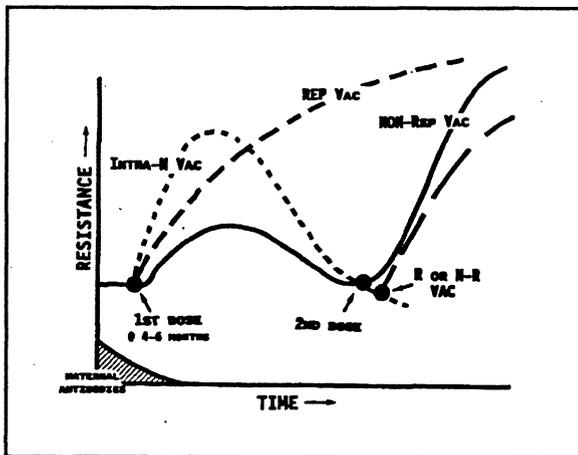


Figure 11. Response to various vaccine forms when administration begins after maternal antibodies have waned.

Generally, calves of this age are nursing pregnant cows, and the use of replicating MLV-IBR vaccines is not recommended. With the exception of Replicating-ML PI3, Strain-19 Brucellosis, and Live Pasteurella vaccines, most vaccines available for use in calves nursing pregnant cows are of the non-replicating or intra-nasal forms, and animals will require at least two doses to achieve a high level of resistance.

When repeating or boosting vaccines, remember it is the type of vaccine that is important (i.e., IBR, BVD, Lepto) not necessarily the form of the vaccine. For example, the first dose of IBR and PI3 could be in the intra-nasal form and the second dose given in the non-replicating form. Form is not important; repeating the vaccine type is !

The vaccinations (including boosters) should be timed so that peak resistance levels are achieved immediately before the disease challenge rises. For example, vibriosis is spread during mating; therefore, the "ideal" time to vaccinate (second dose or annual booster) would be 30 days before you turn the bulls out. Another example: to protect the calves against scour diseases via the colostrum, the best time to vaccinate the cow would be 30 days before calving. The disease challenges for both are "predictable," and vaccinations can be scheduled accordingly (Figure 12).

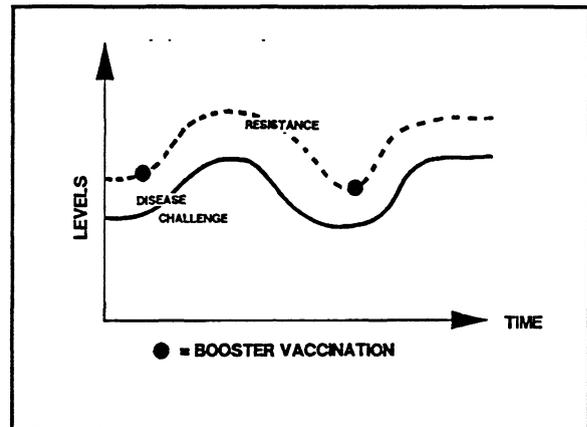


Figure 12. If disease challenge is predictable, booster vaccine before the disease challenge rises.

In contrast, the disease challenge by leptospirosis is quite often year round, and the resistance level stimulated by the vaccine is short lived. Therefore, to constantly keep the animal's resistance above the year-round disease challenge, it would be advisable to vaccinate for leptospirosis at least two to three times a year (Figure 13).

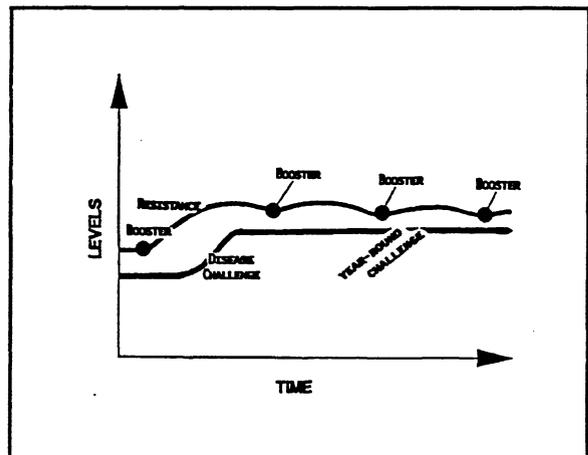


Figure 13. Multiple booster vaccines may be required if certain year-round disease challenges occur.