

## **Newly Developed Technology For PRRSV Strain Comparison and Selection**

MJ Biologics has developed a new method of grouping PRRS virus strains based on the immunological properties of those viruses. This has shown to be a very important part of understanding the virus and making more effective vaccines. For example, if you plan to make a vaccine including 4 or 5 strains, it makes sense to select immunologically diverse strains to get coverage that is as broad as possible. The new technology makes this much more likely.

The grouping technology also allows us to look at historical PRRS occurrences on a particular farm, system, or geographical area to understand the immunological differences in those occurrences. It can give us an indication as to whether an outbreak is a newly introduced virus, merely a mutation of a previous virus, or maybe even the same virus circulating within the system. The ability to do this “grouping” has given us a new understanding of PRRS viruses overall. At this point, the North American strains have been divided into 16 groups and the European strains into 8 more. Every virus sequence we have encountered so far (several thousand) has been classified into one of these 24 groups. This makes it much easier to evaluate these viruses and select the proper vaccine strains than it has in the past.

Previously, people only had dendograms that are based on overall DNA sequence changes of ORF5 to compare different viruses. MJ Biologics has discovered that many of these changes may not necessarily change the immunological properties of the virus. Using dendograms to make comparisons for vaccine decisions is less than ideal for maximizing coverage. ***MJ Biologics’ patented grouping technology***, based on immunological properties, has been developed to help make the best vaccine for your particular situation.