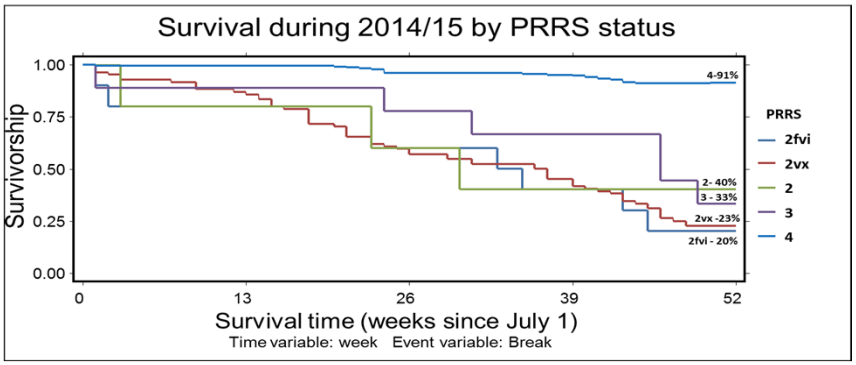
Do herds with different PRRS status get infected at different times of year?

Key Points

- The seasonality of PRRS infection is similar between herds with ongoing immunity (2vx, 2fvi) compared to herds that are negative, or intend to be (2, 3, 4).
- As we expect, status 4 herds had significantly lower incidence (higher survival) than other herds.
- Unfortunately, herds with status 2 (intention to become negative) or 3 had only slightly lower incidence than 2vx or 2fvi.

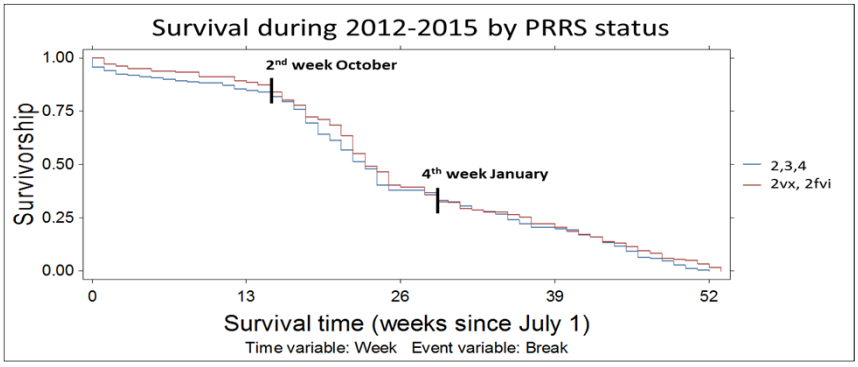
The last 2 years we saw a later, mini epidemic that occurred in summer 2014 and late spring 2015. This prompted us to wonder if PRRS status of herds might be different in herds that break in the major epidemic in fall / winter vs herds that break in spring / summer. Deepak Kumar, a new PhD graduate student with us, compared the week of infection in herds categorized by PRRS status at the time of infection (figure 1). Based on perceived risk of infection, the veterinarian makes a strategic decision whether to pursue PRRS negative (status 2, 3, 4) or maintain immunity (status 2vx or 2fvi) in the sow herd. As we would expect, negative herds (status 4) had the highest survival (91%), which means lowest infection rate (9%). Unfortunately and surprisingly, status 2 and 3 herds had a relatively low survival, 40% and 33%, respectively. And as expected, herds with status 2fvi or 2vx had the lowest survival rate, 20% and 23%, respectively.

Figure 1. Herds with status 2vx / 2fvi had lower survival rate than status 2/3/4, as expected.



We then asked if the time of year when herds were infected was different for those with ongoing immunity (2vx and 2fvi) compared to negative, or intending to be negative herds (2, 3 and 4). For the last 3 years of incidence data (2012 – 2015), Deepak compared survival curves for herds that got infected. As you can see in figure 2, there was no difference. That is, the seasonality of PRRS infection was similar across all herd statuses. And notice how the slope (survival rate) changes from early October through January for both groups – the period of highest risk.

Figure 2. Survival rate of herds with ongoing immunity (2vx, 2fvi) vs herds without (2,3,4)



So, why did some herds break in the first major epidemic of the year vs later in the year? We don't know and will keep looking.

Thank you for your participation and ongoing support. Deepak Kumar & Bob Morrison