Production Impact Study Update

This week we present an update to our continuing analysis of the production impact of PED in breeding herds.

Method:
In order to characterize production impact of a PED outbreak in a breeding herd, we have defined the following :

• Baseline production: The average number of piglets weaned per week determined by 26 weeks prior to the PED outbreak. Three standard deviations of each herd's baseline production was used to set exponentially-weighted moving average (EWMA) control limits to define the time to baseline production (TTBP).
• Time to baseline production: The time that it takes for a herd's production of piglets to return to baseline production after a period of high pre-weaning mortality during infection either by the data returning to within the control limits or reaching back to 100% baseline production.
• Net loss of piglets: The net loss is the difference between the average number of piglets weaned per week in previous 26 weeks and the number of piglets weaned weekly throughout PED infection. Piglets weaned off immediately after clinical signs were detected are subtracted from this loss.

We currently have 124 herds that had experienced the prototype PEDv strain and have volunteered to share this production data with us (Figure 1). Most herds (72%) will reach within our baseline production control limits (lines around 80% and 120% of normal production) within 12.6 weeks on average with a net loss of 2.6 piglets/sow throughout infection. This represents the "rapid response" of a herd developing immunity and recovering from severe pre-weaning mortality after a PED outbreak. Only 38% of herds in our database recover all the way back to 100% baseline production after this "rapid response." These herds reach 100% baseline production in 15.4 weeks on average with a net loss of 4.7 piglets/sow throughout infection. Unlike these herds that reach 100% baseline production, most herds (represented by the average EWMA-smoothed weekly weaning numbers in Figure 1) appear to hover at 80% of baseline production until around 18-20 weeks post-infection and suggest that herds may begin to recover after that amount of time.

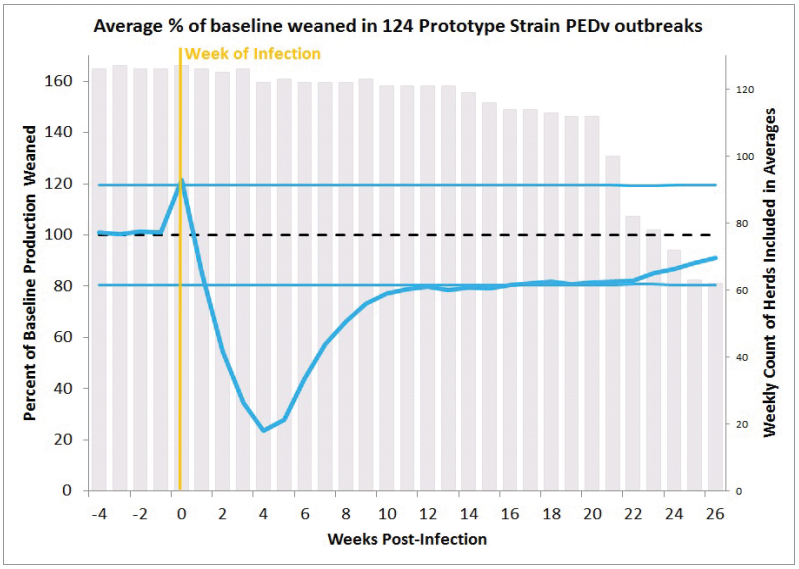

Figure 1. Prototype PEDv (124 herds)
Avg TTBP (3 SD) = 72% @ 12.6 wks
Net loss 2.6 pigs/sow.
Avg TTBP (100%) = 38% @ 15.4 wks
Net loss 4.7 pigs/sow

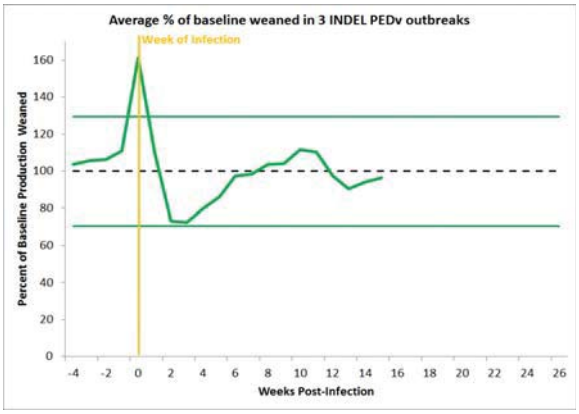

Figure 2. Variant PEDv (3 herds)
Avg TTBP (3 SD) = 100% @ 4.3 wks
Net loss 0.4 pigs/sow
Avg TTBP (100%) = 100% @ 6 wks
Net loss 0.9 pigs/sow

We also have 3 herds with confirmed variant PEDv infection also sharing data (Figure 2). These herds reported more mild clinical signs and reached 100% baseline production within 6 weeks on average with a net loss of 0.9 piglets/sow. This clinical presentation is a stark contrast to the prototype PEDv strain with a small sample size of 3 herds.