

## BIOPLUS® 2B - Consistency in improving sow and pig performance spanning four decades



### CONSISTENT AND PREDICTABLE PRODUCTION

Swine industry economics are as volatile today as they ever have been. Extreme input costs and large per head losses challenge day-to-day survivability. Now, more than ever, consistency and predictability of production are required.

Probiotics are not just one type of product - the term covers many different additives such as spore forming bacteria, lactic acid bacteria and yeast. They all have different modes of action, but all are being used to improve gut health, facilitating a better absorption of nutrients and the utilization of feed. The characteristics and benefits unique to each organism and their interaction is what makes a combination product an effective probiotic.

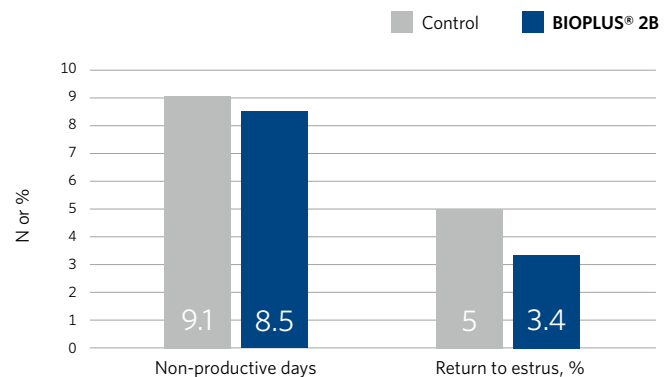
Backed with more than 40 years of data, **BIOPLUS® 2B** is an effective probiotic that harnesses the power of two *Bacillus* strains offering consistent, reliable improvement of swine performance in a volatile world.

### PREDICTABLE IMPROVEMENTS IN SOW AND PIGLET PERFORMANCE

Maintaining a low average number of non-productive days per sow is a characteristic indicative of highly efficient sow units. To achieve this goal, it is important that sows have an early, clear heat after piglets are weaned, and a successful first service that results in a subsequent farrowing event. Limiting weight loss during lactation and supporting optimal body condition at the end of lactation are two means of reducing herd non-productive days.

Application of **BIOPLUS® 2B** to sow diets (gestation and lactation) consistently demonstrate the ability to increase sow lactation consumption, reduce lactation weight loss (helping to maintain sow body condition), and ultimately reducing wean to first service intervals and return to estrus events which effectively limit overall non-productive days within the sow herd (Figure 1).

**Figure 1.** Reduction of non-productive days and return to heat % in sows fed **BIOPLUS® 2B**. Meta-analysis of 22 trials involving 24,163 sows.



Not only is sow unit profitability dependent on reproductive performance, it is also highly linked to piglet vitality. In recent years, litter sizes have increased while birth weights have declined. Under many circumstances, even the best milk management practices have not been able to overcome variations in piglet and litter size and herd milk producing potential.

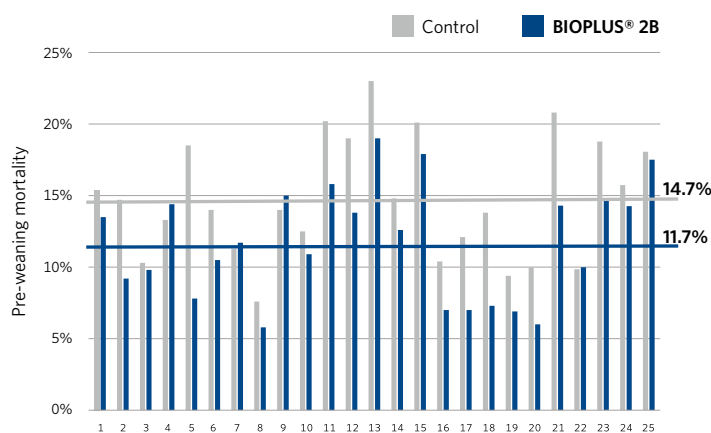
Techniques such as offering of milk replacer in the farrowing crate, forming nurse sow litters, or even aggressive sorting of pigs and litters, while partial substitutes, have often created additional effort with inconsistent returns. Do not lose hope, choosing to feed an effective *Bacillus*-based probiotic may provide some of the consistency you are seeking with minimal added effort. *Bacillus*-based probiotics are highly stable in the feed as they are delivered in a protected sporulated state and germinate (that is to say, become active) in the gut of the host animal to which they are fed.

Research confirms that the *Bacillus*-based probiotic organisms fed to the sow can be found in the fecal material within the farrowing crate. Due to normal pig behaviors associated with exploration of their environment, these spores are ingested during the pig's

natural rooting activity. Early exposure of the piglets through the feeding of a *Bacillus*-based probiotic to the sows benefits both the sow reproductively and the suckling pigs through improved performance and improved piglet vitality (reduced pre-weaning mortality).

As demonstrated in 25 sow studies, litters nursed to sows fed **BIOPLUS® 2B** experienced a reduced pre-weaning mortality of 3% on average compared to their control cohorts (Figure 2). A reduction in pre-weaning mortality to this degree, the resulting increase in weaned pigs per litter, and annualized productivity improvement equate to one additional pig weaned per sow per year in these herds (roughly 0.4 pigs more weaned per litter at 2.5 litter per sow per year).

**Figure 2.** Pre-weaning performance results from 25 sow trials with a combined 42,361 litters weaned.

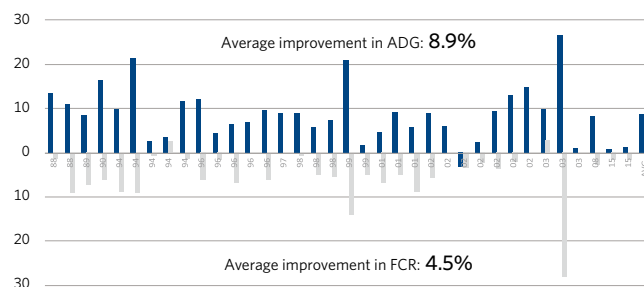


### CONSISTENT OVER TIME SUPPORTING AVERAGE DAILY GAIN AND FEED CONVERSION RATIO

**BIOPLUS® 2B** has not only proven consistency over time but has demonstrated steady performance during times of greatest stress. Through various evaluations, **BIOPLUS® 2B** has helped to reduce negative impacts of stressful scenarios and helped to maintain performance.

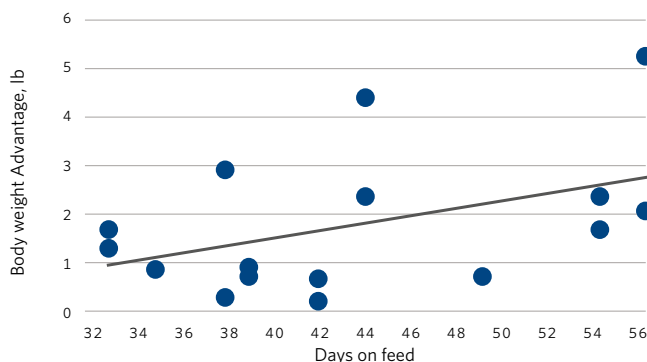
Analysis of 36 studies run over a 30-year period and involving 10,000 nursery pigs demonstrated an 8.9% improvement in average daily gain (ADG) and a 4.5% improvement in feed conversion rate (FCR) (Figure 3). This data was collected from multiple geographies, various management and environmental conditions, and from a variety of genetic sources of pigs yet resulted in positively impacted performance in nearly 89% of the studies conducted.

**Figure 3.** Average improvement over controls in average daily gain (ADG) and feed conversion ratio (FCR) in nursery pigs fed **BIOPLUS® 2B**.



To be more specific, studies run exclusively in North America since 2001 show an increasing benefit of feeding **BIOPLUS® 2B** as the length of time the product is fed is increased as measured by the improvement in weight gained over controls (Figure 4). Feeding of **BIOPLUS® 2B** throughout the nursery phase provides the greatest opportunity for improved performance and overall weight gain.

**Figure 4.** Body weight advantage of nursery pigs fed **BIOPLUS® 2B** versus Control.



With an extensive history of product repeatability, **BIOPLUS® 2B** is a cost-effective solution for sows, litters, and weaned pigs. When you need predictability of performance and efficiency, your selection of a probiotic solution matters.