

Continuously improving production efficiency is vital for the swine industry. Several selection methods have increased sow production. However, some of these methods have led to a decrease in offspring survival. In fact, selection on increased total born negatively impacts piglet birth weight. Lower birth weight piglets tend to have lower rectal temperatures, poor locomotor skills, and overall decreased survival.

Piglets that weigh less than 2 lbs. have less than a 60% chance of survival to weaning (Figure 1). Therefore, it is important to have a balanced selection program, considering both litter size and birth weight.

LITTER SIZE BIRTH WEIGHT



At DNA Genetics, one focus of our program is on Live Pigs at Day 5 (LP5), which is highly correlated to the number of pigs weaned. This trait allows selection for robust piglets that survive to weaning, along with increased litter size. Thus, through selection for LP5, litter size and birth weight both increase.

FROM
2018 >>> 2022

THERE WAS A

50%

DECREASE IN PIGLETS WEIGHING LESS THAN

2 LBS.

Although there has been a decrease in the total number of low-birth-weight piglets, proper post-natal management techniques are imperative for low-birth-weight piglets to thrive.

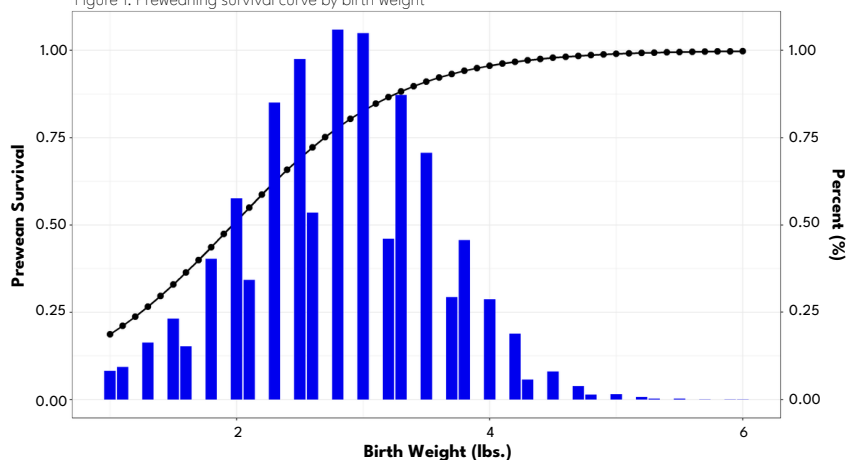
LP5
TRAIT SELECTION



INCREASED LITTER SIZE
INCREASED BIRTH WEIGHT

FPT Birth Through Off-Test Survival Curve by Birth Weight

Figure 1: Prewearing survival curve by birth weight

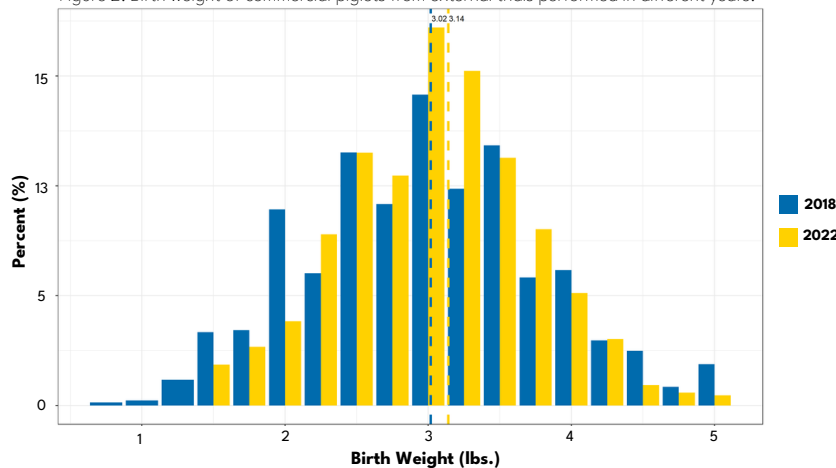


Legend

- Blue Bars – Distribution of piglets by birth weight (lbs.)
- Black Line – Prewearing survival rate by birth weight (cumulative survival curve)

DNA Birth Weight

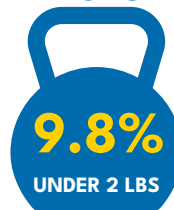
Figure 2: Birth weight of commercial piglets from external trials performed in different years.



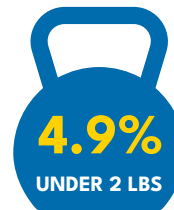
Legend

- Blue Bars – Birth weight distribution of piglets in 2018
- Yellow Bars – Birth weight distribution of piglets in 2022
- Dashed Vertical Line – Average birth weight in 2018
- Dashed Vertical Line – Average birth weight in 2022

2018



2022



INDUCTION

As litter size has increased, gestation length has also increased. The average gestation length has increased from 114 days to 117 days. Inducing sows too early can lead to low piglet birth weight, increased stillborns, and increased pre-wean mortality.

INDUCTION **SHOULD NOT**
OCCUR UNTIL

1 DAY PRIOR

TO THE HERD'S AVERAGE GESTATION LENGTH.

DRYING PIGLETS

Low birth weight piglets tend to have lower rectal temperatures compared to their heavier littermates. Once piglets are born, it is critical to get them dried off and warm. Producers can use a drying agent or towels to dry off piglets.



Rectal temperatures return to normal faster when piglets are dried compared to their non-dried counterparts. Warming the piglet through the vigorous stimulation of drying and rubbing is crucial.

DRIED PIGLETS

- Regain normal rectal temperature faster
- Improved thermoregulation
- Healthier start

NOT DRIED PIGLETS

- Stay colder longer
- Increased risk of chilling
- Slower recovery post-birth

CROSS-FOSTERING

Improvements in born alive have changed how producers best maximize throughput in the farrowing house. Cross-fostering allows producers to even out litter size.

This should be completed within the **FIRST 24 HRS** after birth, prior to pigs establishing teat preferences. Producers should select sows between parities 2 and 4 that have weaned larger litters in her previous parities, 14 or more functional teats, and is in ideal body condition.

The goal in farrowing should be to disturb as few litters as possible and thus maximize litter integrity.

LITTER INTEGRITY BENEFITS

MAINTAINING INTACT LITTERS:

- **REDUCES DISEASE SPREAD**
- **PRESERVES NURSING PATTERNS**
- **BOOSTS WEAN WEIGHTS**
- **LOWERS NURSERY AND FINISHER MORTALITY**



LIGHT WEIGHT PIGLETS performed better when placed in uniformed litters of other small pigs.

SOW SELECTION MATTERS

CHOOSE SOWS IN PARITY 2-4 WITH:

- **A HISTORY OF LARGER LITTERS**
- **14+ FUNCTIONAL TEATS**
- **IDEAL BODY CONDITION**

