

Reducing Pre-Weaning Mortality

Tatjana Ometlic, RVT and Shannon White, BSc
Prairie Swine Centre Inc.

A major welfare and economic issue in the swine industry is pre-weaning mortality (PWM). The incidence of PWM in Canada is often between 12 – 15%, though

this can be lowered with the use of proper management tactics. PWM is increasing along with the continual increases in litter size due to more non-viable piglets being born. The sows' uterus has a specific capacity so if there are more piglets, there is less room for them to grow. Smaller piglets have a more difficult time staying healthy and extra care is often needed. There is no single cause for PWM; the sow, the environment and the piglets all need to be monitored. Staff presence is essential at the time of farrowing to reduce PWM. Other important factors to consider are heat, source of energy, piglet management and colostrum. The following article is based on management practices in place at the Prairie Swine Centre that help maintain the pre-weaning mortality at 12.3% with the goal of decreasing it to 9.6%.

Practical Tips from the Production Manager Staff Presence/Labor

Having staff present is a crucial factor to help lower PWM. The production team should plan how more time can be spent in the farrowing room when it is needed. Before loading the farrowing rooms with sows, staff need to make sure that all the fans, heaters, nipple drinkers and feeders are working properly. Room temperature should be set up to 22.6°C for the sows comfort. Before farrowing starts, a drying agent (potato starch) needs to be applied in the creep area of the crate, and towels for drying piglets can be placed at the back of the farrowing crate. Two heat lamps in the farrowing crate should be turned on at 110 days of gestation, creating a 32-35°C microenvironment for the piglets.

Sows must be closely observed and checked in 30 minutes intervals during farrowing and staff may need to assist in farrowing and drying piglets off with a towel. Sows with a prolonged farrowing time may need special attention as well. Oxytocin can be used to start uterine contractions and speed up the farrowing process if needed. Try to avoid having piglets born later as they have a higher chance of suffering from hypoxia and poor colostrum quality. In instances when the sow is progressing quickly with labor, a drying agent can be poured directly on the piglets to help with the drying process.

Staff should closely observe the piglets' attitude and viability, and piglets are encouraged to latch on the teat within 30 minutes of being born. Low viability piglets, pale looking piglets or piglets born last in the litter should have extra attention. Depending on the number of animals farrowing and staff availability, colostrum can be collected and non-viable piglets should be syringe fed, preferably by their own dam's colostrum. Piglets need to be given an energy source, so if colostrum from their own sow is not available, a different sows' colostrum can be used instead. When fresh or frozen colostrum is not available,

an oral energy supplement, Pig Kare, can be used to give small piglets an energy boost. Colostrum should be fed 2-3 times per day at 10-20 ml per feeding per piglet (depending on the size of the piglet).

The decision to euthanize smaller piglets, 1 kg or less, is largely based on the piglet's demeanor. Some other factors to consider are splay piglets, pale piglets, and "dumbo" looking piglets that have neonatal abnormalities. The likelihood of their survival is very low, so the time and teats are saved for piglets that have a higher chance of recovery and survival. The most humane approach is to euthanize the piglets right away and give attention to the ones that could still have a chance to survive.

"Having staff present is a crucial factor to lowering pre-weaning mortality."

Split Suckling

Split suckling is a very effective management tool that helps to reduce PWM. Our herd at the Prairie Swine Centre has highly productive sows that average 14.7 born alive, therefore we use split suckling on all the litters with 14+ piglets.

Split nurse during the day for the litters farrowed on the previous night or in the afternoon for the litters born that morning. Do not split nurse while the piglets are still wet. Heated boxes can be used to separate the heavier pigs so the teats are available for the lighter pigs, but ensure not to keep them separated longer than 1.5 - 2 hours at the time.

Non-Viable Piglet Management

For the piglets with reduced chance of becoming full value market hogs, try to establish a realistic goal whether or not to invest the time and effort as they often have a difficult time competing with their littermates, which may put them at disadvantage post weaning.

Based on the number of sows farrowing in the room, create a litter of light piglets 24 hours post farrowing, using a parity 2 or parity 3 sow as a nurse sow. Processing of the lightweight piglets should be postponed for 4-5 days. These litters need to be provided with extra starch under the creep cover as well as Pig Kare once a day.

Cross Fostering

Nurse sows can be used when the number of piglets born is greater than cross fostering can accommodate. Litters with 14-15 piglets can generally be left intact; given that the sow has a well-developed underline to support that many piglets. Litters should be as uniform as possible in relation to piglet size as well.

We do not induce sows, so the farrowing process often extends over a 5 to 7 day period. This can create challenges when cross fostering, as litters born at the end of the week may not be able to be cross-fostered within 24 hours. There should not be frequent disruptions of the litters as it may negatively affect the sow and milk let down. Depending on the litter sizes in the farrowing rooms, it can be very useful to put all the fall-behind piglets and extra piglets together 3-7 days after farrowing on a fresh sow.

Sometimes scours develop as a result of mixing. Starching the piglets and the mat while adding electrolytes greatly improves the piglets' condition, and scours often resolve within few days.

Our goal is to nurse 14-15 piglets farrow to wean and challenging the gilts to nurse 14-15 piglets to properly develop and stimulate all mammary glands.

Handling Defects

For splay-legged piglets, tape within 6 hours post farrowing. Make sure the microenvironment is up to proper standards and remove the tape 24-48 hours later. Success rate is higher on the bigger piglets as smaller piglets tend to get laid on overnight.

Preventing Savaging

Savaging is seen more in gilts and less in older sows. If this occurs, piglets can be placed in heated bucket until the sow settles in and calms down. Stresnil can be used to manage aggression as well. Sows should be monitored closely during

farrowing as uterine contractions might slow down in these cases. It is ideal to minimize activities in the room, as this can be a trigger too. Once the sow is calm piglets can be put back on her.

The Bottom Line

Pre-weaning mortality needs to be reduced in order to increase the welfare of the animals and the profits associated with them. There are many management techniques that can be put in place to help decrease PWM. Having staff present during farrowing may be the most beneficial technique, as problems can be detected and solved much sooner.



Staff Presence/Labor	<ul style="list-style-type: none"> Farrowing room temperature should be set to 22.6°C Ensure staff are present during farrowing, check on sows in
30 minute intervals	<ul style="list-style-type: none"> Use a drying agent and towels to keep piglets dry Heat lamps should be used at 32-35°C Use oxytocin if the farrowing process needs to be faster Syringe-feed colostrum to low viability piglets Euthanize piglets who will not survive
Split Suckling in a litter	<ul style="list-style-type: none"> Split suckling can be done if there are more than 14 piglets Split nurse in the day if born the previous night Split nurse in the afternoon if born in the morning Place heavier pigs in a heated box for a maximum of 2 hours
Non-Viable Piglet Management	<ul style="list-style-type: none"> Create a litter of lighter piglets on a parity 2 or 3 nurse sow Postpone piglet processing for 4-5 days Provide extra starch and Pig Kare once a day
Cross Fostering	<ul style="list-style-type: none"> Nurse sows can be used if there are over 15 piglets Separate so that each litter has a fairly uniform piglet size Cross-foster within 24 hours if possible
Handling Defects	<ul style="list-style-type: none"> Tape splay-legged piglets
Preventing Savaging	<ul style="list-style-type: none"> Remove piglets and place in heated area away from sow Stresnil can help manage sows' aggression Minimize activities in the room

