

## Suckling Effects on Mammary Development

---

Recent research has shown evidence on how to manage gilts and sows during lactation to maximise their milking potential for both their current and future litters.

A piglet can grow potentially faster than can be provided for by an average sow's milk. To improve her milk production therefore, udder development must be maximised from the start of her productive life. It has been proven that suckling mammary glands to their maximum potential in the first lactation results in an increase in milk production in the second lactation, and probably every lactation after that.

---

### Mammary Gland Development

Mammary gland development occurs in 3 stages. The first stage takes place during the time that the gilt is 90 days of age through to puberty.

The second stage is during the last third of pregnancy, where there is a rapid increase in mammary gland and teat development. During this period, the largest amount of growth seen is in the middle mammary glands.

The final stage of development is the most important. There is a continuation of mammary development 5 to 21 days after farrowing, during the first lactation. The main factor that increases mammary gland milk yield is the suckling piglet itself. It is this stage that determines how much milk is produced from each teat in future lactations. During lactation itself, the front mammary glands and teats grow more than those at the back.

The most important lactation for mammary gland development therefore is the first lactation. As the mammary gland increases in size, the piglet which suckles from that teat also increases in size.

---

### Influences on Development

The development of the mammary gland during pregnancy is due to hormones produced by the placenta, the ovaries and the brain. In contrast, mammary gland development during lactation is due to maximum effective suckling of each gland carried out by the piglets themselves.

Piglets have a strong teat order, which is established 11-12 hours after farrowing. It has been shown that, on the whole, piglets will only use one teat to suckle. If a piglet is removed from the litter, that teat will go unsuckled even if it is a higher milk volume producing teat that becomes available to another piglet. The gland will subsequently decrease in size and in milk production, unless it is suckled again and shortly after piglet changes.

---

As discussed above, a mammary gland that is left unsuckled will start to decrease in both size and milk production. Mammary glands that have been left unsuckled for the first 24 hours after farrowing will start to undergo a decrease in milk production, but this can be reversed if the teat is resuckled within 24 hours. This will result in a lower volume of milk produced however. If a teat is left unsuckled for 3 days or longer, it has been shown that its size and the volume of milk produced will decrease, and this will affect the quantity of milk produced from that teat in the next lactation. Importantly, this cannot be reversed. Cross-fostering therefore needs to occur as early as possible, ideally within 24 hours post farrowing, and with the aim to fill every available teat.

All lactating sows let milk down many times a day. During milk let down, the sow emits an increased rate of grunting, and subsequent milk ejection from the gland occurs around 25-30 seconds later. Milk is only let down for 10 – 15 seconds. Some sows will let down milk more often during the day than others, although this will result in a decreased volume of milk that is let down each time. Overall total milk volume produced is increased however by more frequent suckling.

There is increased milk let down by glands which are stimulated more often by nuzzling and those piglets which remove all the milk from the gland more effectively. The more milk that is removed from a mammary gland at each let down, the more that mammary gland is stimulated to produce more milk and to grow in size, which itself results in an increase in piglet size.

The study also demonstrated that in a sow's second lactation, piglets will compete for teats which were suckled in the first lactation effectively. These piglets, which suckled teats in a sow's second lactation that were previously suckled in the first, were 1.12kg heavier at 56 days of age in comparison to piglets that had suckled teats that were previously unsuckled in a sow's first lactation.

This information shows how important the first lactation is in ensuring maximum milking potential for the second lactation and throughout a sow's productive life.

**Please speak to your Vet to discuss how this information may alter your fostering decisions.**

