H34 – Handling of ”smallest pig” and ”IUGR pigs”

Piglet survival can be improved by paying special attention to the smallest pigs and IUGR pigs (dolphin pigs).

Small pigs and in particular IUGR pigs are easy to identify in the pen.

Small pigs
Pigs that weigh below 1 kg at birth. The smaller the pig, the greater the challenge.

1. At birth – if the pig is dry, warm and

a. Has a teat
   - Let the pig stay with the sow and get colostrum

b. Does not have a teat
   - Help the pig to a teat or administer colostrum orally until it has the energy to continue colostrum intake on its own.

2. At birth – if the pig is wet/cold/limp

- Give the pig 8 ml sow colostrum using a probe (only by trained staff)
- Alternatively give the pig cow colostrum (see H7) or glucose
- Place the pig in an ”incubator” under a lamp. The pig must have a surface temperature of roughly 34 °C - max 36 °C to prevent heat stroke.

IUGR pigs
Recognised by their head shape. Look like dolphins with a high, arched forehead. Protruding eyes and spiky hair. IUGR pigs ere born ”immature”.

3. After one hour in an incubator

- Place the pig by a teat or destroy it if it fails to start suckling
- Start split-suckling if there are more piglets than teats, so that the pig is assured of colostrum (see H7)
- Move the pig to a nurse sow for underweight piglets (see H10) that still excretes colostrum.

Pigs are born in different sizes and thereby at different weight. Small pigs are at greater risk of dying due to hunger and cold.

Typical IUGR pig with dolphin forehead, spiky hair and protruding eyes.

Additional comments – Handling of ”smallest pig” and ”IUGR pigs”

	As litter size increases, foetuses have less room in the womb, which is likely one of the reasons why several foetuses do not get sufficient nutrition before birth. These pigs are called IUGR pigs (Intra Uterine Growth Restricted-piglets). The nutrition that IUGR pigs do absorb before birth is distributed in the foetus: the brain's need is met, while other organs (such as the liver) are smaller than in normal pigs. In per cent, however, the stomach is the same size as in normal pigs, ie. IUGR pigs can take in the same amount of milk in per cent as normal pigs. IUGR pigs have a low birth weight. In terms of behaviour, they are also restricted compared with normal pigs which may pose a further challenge in finding a teat and start suckling. Generally, the increasing litter size has led to a decrease in the birth weight of the individual pig. The smaller the pig, the smaller the innate energy depot. Consequently, small pigs come with a smaller 'lunch packet' at birth and they spend their innate energy (glycogen in the liver) faster than normal pigs. Pigs with a low body weight are particularly exposed to hypothermia and are therefore at greater risk of dying as their surface is relatively large. If they are wet, they will spend a great deal of energy on drying and restoring their body temperature. Thereby, they are unable to manage in the competition by the udder with the large litter mates.
1.	Piglet survival chances improve if they stay warm and get colostrum from their own mother. If a pig is dry and is taking in colostrum, let it stay by the udder until crossfostering.
2.	Heat and energy are vital to the survival of the pig. This also applies to intake of colostrum antibodies. You may use a probe as weak pigs are unable to suckle, but be careful not to damage the oesophagus with the probe – it is therefore crucial that staff is thoroughly introduced to and trained in using a probe. Destroy the pig if it is completely unable to suckle. A pig weighing 500 g needs 15 ml colostrum three times with minimum one-hour intervals. 10 ml should come from early colostrum from a sow so that the pig is assured of antibodies prior to supplementing energy. As sows are 'difficult' to milk, supplemental energy in the form of cow colostrum is also an option.
3.	Most litter include more piglets than the sow has functional teats; the pigs that get to a teat stay by the sow the first 24 hours and will defend this teat against other piglets. A pig that was in an incubator must therefore fight even more to get to a teat. With split-suckling, the largest piglets are confined in the creep for a period of time to allow the smallest piglets room by the udder (see H7). As long as the sow is still delivering piglets, it will continue to excrete colostrum. Once the sow has finished farrowing, milk letdown will happen in 40-minute intervals. The sow will continue to produce colostrum for the next 12 hours. Note that only the pigs that have a fixed teat will get milk in the 5-10 seconds milk letdown happens. Split-suckling may also be an important element in these cases to allow the smallest piglets a chance of colostrum intake.
	While the sow is still farrowing, and in particular when a piglet is underway, you can milk colostrum (see H7). After farrowing, milk letdown happens in 40-minute intervals. In this period, you can express sow milk after the sow has been treated with oxytocin.