

Heat Pad Control in Open Creeps : Summary

Set Temperature Newborn	42°C (107°F)
Set temperature 3 weeks	36°C (97°F)
Temperature sensing	Within pad or centre of underside
Sensed pad	Always in stocked pen
Minimum	0%
Control setup	Dicam, FSS3, Simmer, Curve

Explanation

- 1 Heat pads aim to supplement piglet heat production, since farrowing rooms are too cold for them. The aim is for piglets to lie on the pads for as much of the time as possible to minimise risk of overlying by the sow.
- 2 Heat pads deliver heat to the piglet only when the pad is hotter than the piglet's skin, which is around 36°C.
- 3 If the heat pad is set any lower than 36°C, piglet heat will raise it to this temperature and then heat pad will be switched off by thermostatic control (see 6). So the lowest usable setting is 36°C.
- 4 If the pad is hotter than 42°C, piglets will not lie on it for any length of time, so this is the normal maximum temperature setting.
- 5 In between 36 and 42°C, the heat supplement varies. The higher the temperature, the greater the heat gain by the pig from the pad. Heat supplement requirement varies according to a number of factors, but is generally highest at newborn, and lowest at weaning.
- 6 Many users make the mistake of setting pad temperatures too low (i.e. under 35°C) and then increasing minimum heating setting instead. Using a minimum heat setting (i.e. greater than 0%), means that heat will be delivered to the pad even when the pad is up to set temperature. This may cause excess pad temperatures, and risks driving the pigs off the pad, leading to overlying.
- 7 Temperature sensing must always be of the pad itself. Heat pads have negligible impact on air temperature around the pad. The allowable temperature range is very small, and some pads may reach very high temperatures if not measured and controlled effectively.
- 8 Rate of heat loss from heat pads varies depending on whether pigs are lying on it or not. When the pad is open to the air, rate of heat loss is lower than when pigs are lying on it. I.e. less power is required to maintain pad temperature when no pigs are on the pad. Therefore, pad temperature must be sensed in a stocked pen.
- 9 Temperature differences may exist in a pad, and so the measured temperatures may differ marginally from those given above, which should be regarded as guidelines only. Furthermore, heat pad performance and farrowing room temperatures may differ significantly.
- 10 In any particular installation, suggested guidelines must be modified suitably using indicators such as piglet lying behaviour. A control curve (automated temperature setting sequence) is strongly recommended, for maximum consistency.
- 11 Heat pads should be controlled with modulating control (varying from 0 to 100%). On-off control is not recommended. For lowest electrical noise and maximum service life, Dicam FSS3 modules are most suitable, set to Simmer.

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