

Extra heat and supplementation of glucose 6-7 hours after farrowing did not improve survival of small piglets

T.F. Pedersen, D.P. Frandsen & M.B. Nielsen

SEGES Innovation, Livestock, Agro Food Park 15, Aarhus, Denmark

Background

The increase in litter size has resulted in very small piglets and an increase in piglet mortality. Piglets with a birth weight of 400-800 g have a survival rate of 26-80%. Heat and energy are very important for the newborn piglet in terms of improving survival rates.

Objective

The aim of this study was to investigate if heating of piglets that weighed 800 g or less for 45 minutes, as well as supplementation of glucose at litter equalization could increase piglet survival on day 21 from 50 to 70%.

Materials and Methods

In one herd, 524 piglets below 800 g were selected shortly after farrowing for measurement of rectal temperature and blood glucose concentration. Pigs were divided into 4 groups to ensure an equal weight distribution: two control groups, one receiving both heat and glucose, and the second receiving neither. Pigs in group 3 received heat but no glucose, and pigs in group 4 received glucose but no heat. The glucose was administered orally to the piglets in groups 1 and 3. The piglets were weighed again after 21-23 days at the end of the experiment.

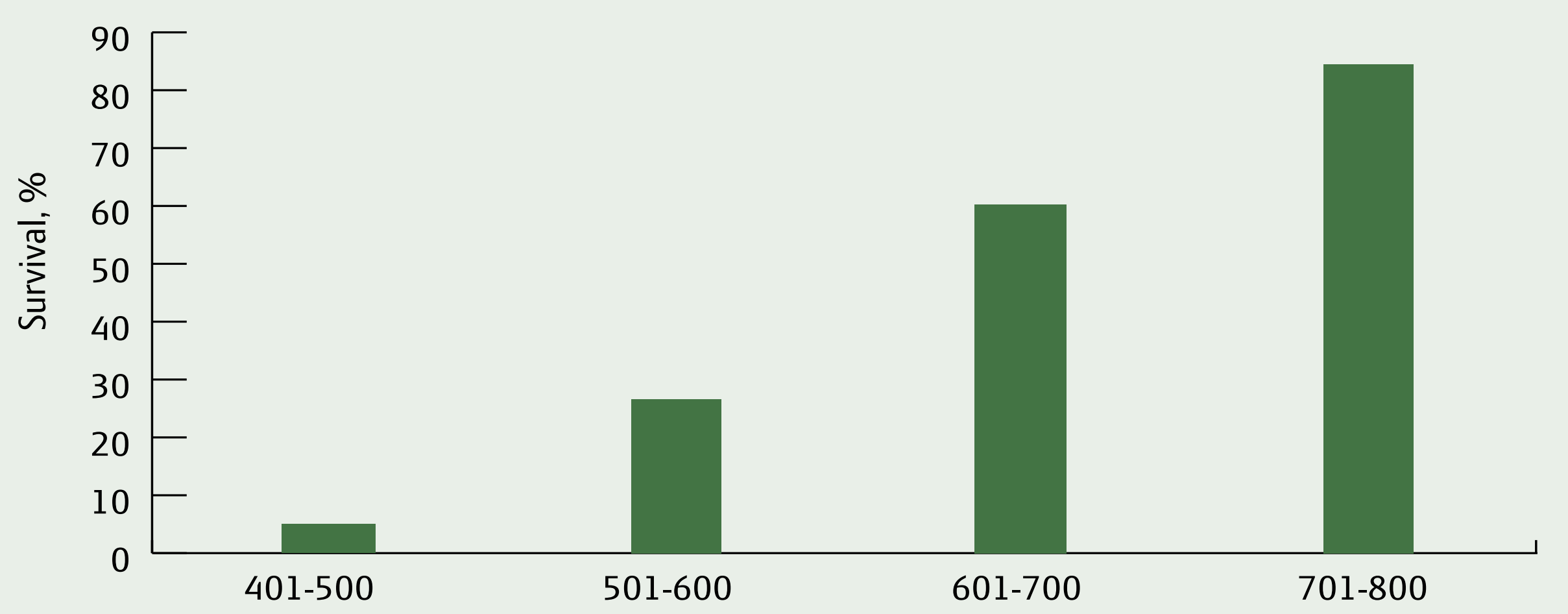


Table 1. Effect of heat supplementation on piglet temperature 2 hours after first treatment and survival

	Groups 1+2 +heat	Groups 3+4 - heat	SEM	P value
Rectal temp, 2 hours after farrowing, C°	37.5	37.3	0.06	0.005
Rectal temp difference, C°	0.11	-0.07	0.06	0.005
Survival, %	66	67	4.0	0.50

Table 2. Effect of glucose supplementation on piglet temperature 2 hours after first treatment and survival

	Groups 1+2 +Glucose	Groups 3+4 - Glucose	SEM	P value
Rectal temp, 2 hours after farrowing, C°	37.5	37.3	0.06	0.001
Rectal temp difference, C°	0.13	-0.08	0.06	0.001
Survival, %	59	67	4.0	0.01

Results

Selected results are presented in Tables 1 and 2 showing the effect of heat and glucose, respectively. The correlation between rectal temperature and blood glucose in terms of survival is presented in Figure 2.

Conclusions

Piglets exposed to heat for 45 minutes did not have higher survival rates than those that were not. Supplementation of glucose has a significant negative effect on piglet survival. Action must be taking already during farrowing, as post-farrowing action has proven to be too late and can even harm to the piglets more than help them.

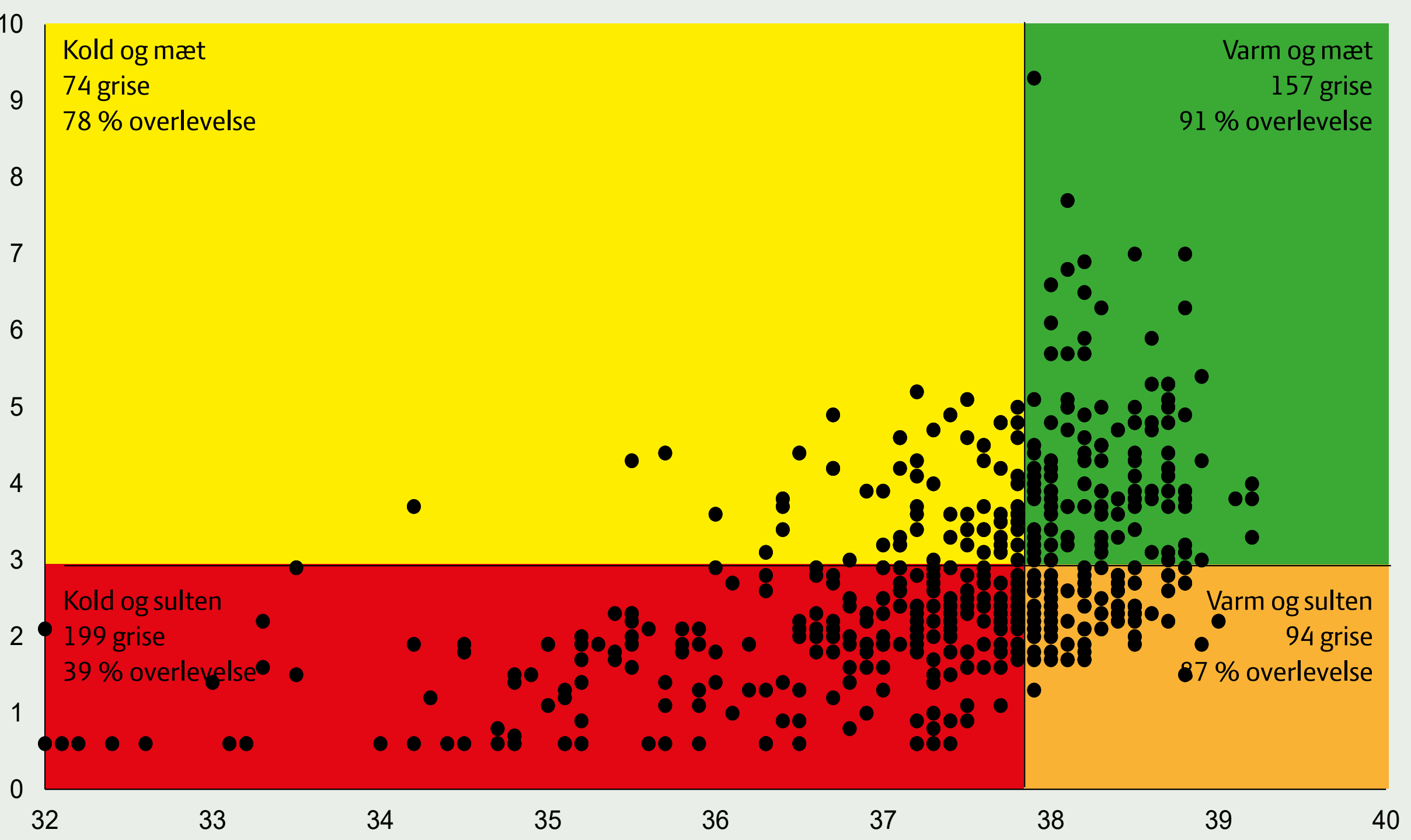
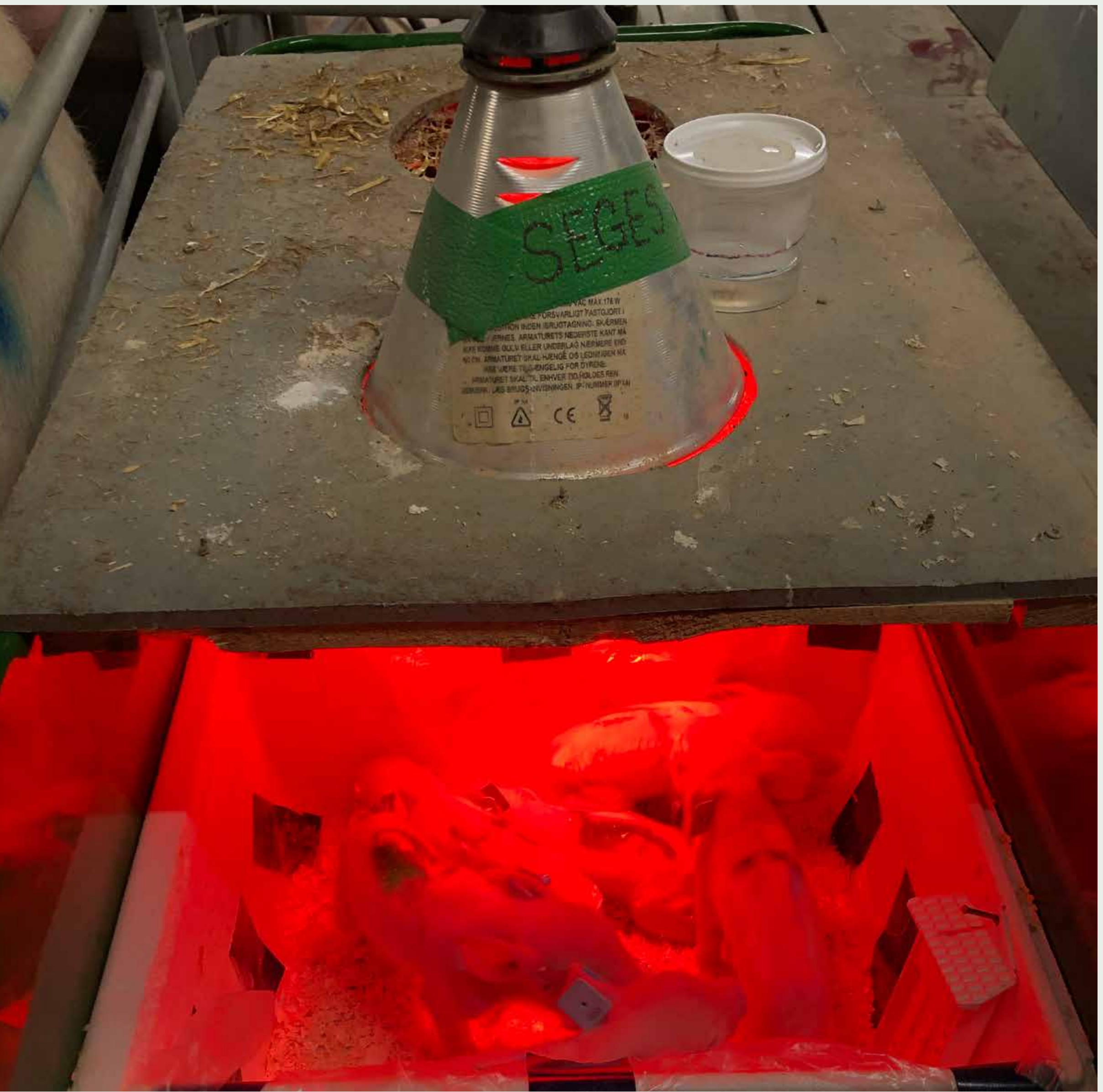


Figure 2. Correlation between rectal temperature and blood glucose for survival of piglets. The correlations between temperature and blood glucose, temperature and weight, and blood glucose and weight were 0.54, 0.41 and 0.45, respectively



Heated feed wagon with thermometer in the upper right corner

