

University of Welfare Training Langford



On-Farm Casualty Slaughter of Swine (Zephyr EXL vs Manual Blunt Force Trauma)

The usual methodology for the on-farm casualty slaughter or surplus slaughter of neonate swine is by manual blunt force trauma, carried out by administering a blow to the head, which is generally performed by swinging the young animal against the floor or a wall. Although widely used as a means of casualty slaughter the effectiveness of this method is heavily dependent on the strength and skill of the person and consequently the probability of achieving an immediate kill in all cases is low. Furthermore a lack of proper training and human error can lead to pain and distress to the animal. It is also a method of killing that is aesthetically unpleasant for both the operator and any bystanders.

Mechanical blunt force trauma (Zephyr EXL) is an alternative method that delivers a more controlled percussive blow to the head that results in an immediate stun/kill. Research at Bristol University (Hewitt, 2000) reported the development of a percussive device (nonpenetrating captive bolt gun) for poultry that did not require the procedure to be followed by a killing method. Based on this research, Bock Industries produced two non-penetrating captive bolt guns, the Zephyr EXL pneumatically powered and the TED powered by a butane cylinder. Researchers at the University of Bristol (Grist, et al., 2017a) demonstrated the effectiveness of the Zephyr EXL to humanely stun/kill piglets (≤24 lbs). Further research (Grist, et al., 2017b) reports the results of a field trial that shows that this tool could be applied within the farrowing unit on-farm, immediately, to any piglet that was identified as injured or in distress. Thus reducing the time these casualty animals are exposed to pain or distress. The field trial also demonstrated that when applied correctly, up to 10 piglets per minute can be dispatched humanely by this method on-farm.

It is recommended that all livestock farms should have ready access to suitable equipment for the humane killing of all farmed animals species, sizes and ages kept on the premises and that all equipment kept on farm for the killing of animals must be maintained in good working order, cleaned after use and stored in suitable facilities as per manufacturers instructions. The Zephyr EXL meets this recommendation for neonate swine.

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References:

Grist, A., Murrell, J., McKinstry, J.L., Knowles, T.G. and Wotton, S.B. (2017a). Humane Euthanasia of Neonates I: Validation of the effectiveness of the Zephyr EXL Non-penetrating Captive Bolt system for euthanasia of new-born and weaned piglets up to 10.9 kg. Animal Welfare. 26: 111-120

Grist, A., Knowles, T.G. and Wotton, S.B. (2017b). Humane Euthanasia of Neonates II: Field study of the effectiveness of the Zephyr EXL Non-Penetrating Captive Bolt system for euthanasia of new-born piglets. (submitted).

Hewitt, L. 2000. The development of a novel device for humanely dispatching casualty poultry. PhD Thesis. University of Bristol.