

USE OF NON-PENETRATING CAPTIVE BOLT FOR EUTHANASIA OF NEONATE, SUCKLING AND WEANED PIGLETS UP TO 9 KG

PROJECT LEADERS

**Tina Widowski, University of Guelph
and Suzanne Millman, Iowa State University**

PROJECT OBJECTIVE

To investigate the effectiveness of the modified design of the non-penetrating captive bolt for euthanasia of neonates, as well as older piglets.

The Zephyr-E is a highly effective and humane method of euthanasia for piglets weighing up to 9 kg. It is now available for use on farms.

FINAL RESULTS

Overall, the Zephyr-E non-penetrating captive bolt is a highly effective and humane, single step method of euthanasia for piglets weighing up to 9 kg. It provides a practical, science-based alternative to blunt force trauma for euthanasia of young piglets.

During the experiments, application of the Zephyr-E consistently resulted in immediate, sustained insensibility until death for all piglets. Skull fractures and subdural and parenchymal hemorrhage were present in all piglets indicating that the device induced severe traumatic brain injury leading to death. For all piglets, loss of sensibility was immediate, involuntary movement ceased in less than 5 minutes and cardiac arrest occurred in less than 15 minutes.

The device is now commercially available. It is safe for the operator and comes with training material.



Additional Project Information

Click on the links below for further information on this project

R&D Featured Articles (presented by Swine Innovation Porc):

- [Euthanasia Alternatives](#)
 - August 2012

Farmscape Interviews:

- [New Euthanasia Device for Piglets Now Commercially Available](#)
 - February 15, 2013
- [Zephyr Gun Shown as Effective Alternative for Euthanizing Piglets](#)
 - December 27, 2012
- [Research Confirms Effectiveness of Zephyr](#)
 - September 5, 2012
- [New Device Eases Stress of Euthanasia](#)
 - September 4, 2012

Financial Support for this Project

This project is part of the [Swine Cluster 1 \(2010-2013\)](#) research program, made possible through financial support from Agriculture and Agri-Food Canada and a number of other industry and governmental partners. [Click here to learn more about the financial partners for Swine Cluster 1.](#)