

## **Investigation into the Psychological and Physical Effects of Participating in a Mass “Depopulation” Operation**

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### **Executive Summary**

Worldwide, animal welfare investigations result in the discovery of commercial farming operations where large numbers of animals are suffering requiring quick and humane euthanasia. These events called “depopulation” operations are likely to be a traumatic experience for the personnel involved. In 2008, 13 Animal Welfare Investigation students voluntarily participated in a depopulation operation carried out by Ministry of Agriculture and Forestry (MAF) and the New Zealand Food Safety Authority (NZFSA), performing manual euthanasia, involving a mass number of poultry (5000 chickens) conducted to mitigate current and future suffering. Questionnaire evaluation of the psychological and physical effects experienced as a result of participating in this depopulation operation was conducted. The majority of students had an experience where the euthanasia technique used did not effectively kill the chicken (77%). 62% indicated that having leather gloves, a broiler suit and a mask was helpful in detaching themselves from the situation. During the operation the following physical and emotional symptoms were experienced (moderate-extreme); emotionally switched off (77%), anger (62%), sweating (53%), physical pain (53%), disgust (46%), extreme shaking (38%), grief (38%) and had difficulty eating lunch (38%). 69% did not find that the euthanasing of the birds become easier throughout the day. 85% now view chickens differently, however none regretted participating in the operation. The majority (88%) felt that the blame for the mass euthanasia lay with the farmer and that they were “helping the animals”. During the first few days following the operation 62% experienced intrusive memories and flashbacks (moderate-extreme). Some students continued to experience emotional responses 4 months and 12 months post the operation however this was only in one or two cases.

### **Background**

Worldwide, animal welfare investigations often result in the discovery of commercial farming operations where large numbers of animals are suffering. These animals often need to be euthanised as quickly and humanely as possible. Such animal welfare operations, known as “depopulation” operations, are likely to be a traumatic experience for the people involved. The trauma experienced and the coping strategies associated with a “depopulation” event is worthy of investigation. In 2008, an extraordinary event occurred that required collaboration between the Ministry of Agriculture and Forestry (MAF), the New Zealand Food Safety Authority (NZFSA), Unitec staff (Arnja Dale) and Certificate in Animal Welfare Investigation students during a “depopulation” operation. The operation entailed mitigating current and future suffering of a mass number of poultry (5000 chickens and 200 ducks) through manual euthanasia, carried out in one 8-hour period. Due to time restraints and the vast number of animals requiring euthanasia, manual euthanasia was performed.

The predominant methods of euthanising animals are through the use of sodium pentobarbitone, gassing in chambers and captive bolt or electric stunning. The trauma experienced by those performing manual euthanasia through cervical dislocation (neck breaking), to the authors' knowledge, has never been investigated.

The trauma experienced and the coping strategies associated with a "depopulation" event warrants investigation. The psychological and physical effects on the people involved in mass scale euthanasia has never before been investigated. This is vital research that will inform large-scale euthanasia protocols worldwide.

Over half the animals euthanised during this one-off operation were in a state of adequate welfare (not suffering) which may well affect the psychological experience endured by those who carried out the euthanasia to a significantly increased degree than that which has previously been reported in literature. Half of the birds were not euthanised to due poor welfare states but instead were euthanised under a directive of the NZFSA as the farmer had lost his commercial farming NZFSA verification license. This occurrence may well affect the traumatic psychological stress endured by those who carried out the euthanasia to a more significant degree than has previously been reported in literature.

Many people occupy positions within the field of animal welfare because of their love of nonhuman animals. Very few of these people are adequately prepared for the fact that one of their duties, within these occupations, may be to kill animals (Rogelberg et al., 2007). Peoples' attitudes to the killing of nonhuman animals are complex (Jepson, 2008), many "suffer in silence because the subject is taboo" (Coghlan, 2008) and few receive any formal training on how to cope with their feelings.

The euthanasia of animals often triggers feelings of guilt, remorse and grief (Coghlan, 2008) and employee turnover rates are positively related to euthanasia rates (Rogelberg et al., 2007). Research has investigated the stress and trauma associated with euthanasing laboratory animals (Allerd and Berntson 1986; Rohlf and Bennett, 2005 Coghlan 2008) shelter animals (Marston et al., 2004; 2005; Rogelberg et al., 2004; Frommer & Arluke 1999; Rohlf and Bennett, 2005) and slaughterhouse animals (Dillard, 2007; Ledesert et al., 1994; Kristensen 1991). It is well known that laboratory, veterinary, slaughterhouse and animal shelter employees with euthanasia responsibilities are an at risk population for a variety of psychological and emotional ailments (Rogelberg et al., 2007). Employees who are required to euthanise animals commonly suffer from Perpetration-Induced Traumatic Stress (PITS) which results from actively participating in traumatic events and performing actions which are morally difficult to justify. The experience of PITS is associated with a variety of physiological and psychological difficulties; including grief, high blood pressure, depression, substance abuse, nightmares, emotional numbing and distressing recollections of the traumatic event(s) (Reeve et al., 2005; Rogelberg et al., 2007).

Thirteen students enrolled in the Animal Welfare Investigations Certificate at Unitec were asked to assist with this a one-off "depopulating" operation which was carried out on two commercial battery chicken farms. The students were able to use this experience towards the compulsory work experience component of their enrolled course.

Reports resulting from this research will directly inform industry bodies including RNZSPCA, MAF Enforcement, MAF Animal Welfare, NZFSA and the NZVA. This research will identify areas of risk and enable the development of recommendations for dealing with PITS. Interest has been expressed by MAF in adopting the recommendations that will arise as a result of this research.

## **Aims and Objectives**

The aim of this research was to:

1. Quantify the psychological effects associated with the manual euthanasia of poultry on a one-off mass scale on Animal Welfare Investigators trainees.
2. Quantify the physical effects associated with the manual euthanasia of poultry on a one-off mass scale on Animal Welfare Investigators trainees.
3. Assess if there is a psychological difference associated with manual euthanasia compared to the effects of standard euthanasia methods (e.g. injection of sodium pentobarbitone by a vet).

## **Methodology**

The questionnaire (Ethics approval 2008-890) was utilised to address the research questions as it was determined to be the most appropriate method of investigation and consisted of the following sections:

1. Demographic information
2. Prior to the Depopulation exercise
3. The Depopulation operation of chickens and ducks
4. After the Depopulation operation
5. Emotional Response to MAF/NZFSA operation
6. Personality Evaluation

The quantitative and qualitative data was gained from the questionnaires. The quantitative data generated from this questionnaire was analysed using SPSS to carry out statistical tests in order to address the aims of this research. The qualitative data analysis has been carried out in collaboration with Dr Geoff Bridgman using reliable qualitative analysis techniques.

## **Outcomes/Findings/Conclusions**

The research findings highlight the emotional difficulty in participating in the euthanasia of animals (especially when performed manually and on a large scale) and the importance of safeguarding the psychological welfare of the humans involved.

## **Implications**

This research is of direct benefit to MAF (Ministry of Agriculture and Forestry), NZFSA (New Zealand Food Safety Authority), NZVA (New Zealand Veterinary Association), NZVNA (New Zealand Veterinary Nursing Association), and the RNZSPCA (Royal New Zealand Society for the Protection of Cruelty to Animals), in planning for mass scale "depopulation" operations. This research will also identify areas of risk and enable the development of recommendations for dealing with PITS. Interest has already been expressed by MAF in potentially adopting the recommendations that will arise as a result of this research. This research is also of value to the future students of the Certificate in Animal Welfare Investigations and the Bachelor of Applied Science (Animal Welfare and Management) and all animal welfare and anthrozoological (human/animal interaction) teaching within the Department of Natural Sciences.

## **Publications and dissemination**

This research has already been presented at the 2009 International Minding Animal Conference in Australia and the manuscript for submission to a peer reviewed journal article in a journal such as *Applied Animal Behaviour Science*, *Animal Welfare* or *Anthrozoology* is well underway.