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**The Efficacy of Using the EPCIS Standard  
for Livestock and Meat Traceability**

**Thesis for Master of Logistics and Supply Chain Management**

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## **Abstract**

Radio Frequency Identification (RFID) systems have been used for many years in identification applications. The efficacy of using UHF RFID technologies for livestock traceability and related applications has been widely repudiated within the global livestock sector. Technical inadequacies and constraints of physics are typically identified as the basis for discrediting the RFID form.

The EPCglobal Network is a secure means to connect servers containing information related to items identified by using globally unique numbers known as EPC (Electronic Product Code) numbers. The servers, called Electronic Product Code Information Services – or EPCIS - is an open public standard used to track the progress of objects as they move through the supply chain.

Published research into the use and efficacy of using the suite of EPC RFID standards, especially the EPCIS Standard to assess traceability performance outcomes in any industry sector, let alone the livestock sector is minimal. This thesis investigates, examines and assesses the use of UHF RFID technology within the context of the EPCglobal suite of standards, focusing specifically on the component EPCIS standard to determine efficacy for livestock traceability.

The thesis examines regulatory based definitions of traceability in order to adopt a reference definition and uses a multi-stage proof of concept process model to assess and draw conclusions in determining the efficacy of using the EPCIS Standard for livestock traceability.

A definition of *Chain Traceability*, defined by the Food Business Forum (CIES 2005 p.7) was adopted as a benchmark reference against which objectives were measured and assessed. Because all EPC identifiers and relevant associations used in the research was able to be identified, recorded and reported using the EPCIS standard and database, chain traceability was demonstrated, thereby verifying traceability objectives and the efficacy of the EPCIS standard as a tool for livestock traceability.

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To my mum and dad (Alan Doig) - Agnus Dei, qui tollis peccata mundi, dona nobis pacem.

I write the dedication to my wife on a special day in our calendar, August 11<sup>th</sup>, the feast day of St Suzanne. I need say no more.

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