

e-Bale: The Potential Radio Frequency Identification of Wool Bales

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e-Bale: Background

Objective: Unique Identification of Wool Bales

- ✘
AWEX Benefits in the handling/distribution of other products
- ✘
AWEX Machine-readable systems investigated for wool bales since the 1980/90s
 - ✘
AWEX Barcodes not successful because:
 - ✘
AWEX they were difficult to read if pack label was wrinkled, and
 - ✘
AWEX could not be read when bales were dumped
 - ✘
AWEX Complex and challenging environment, especially the dump (where 2 or 3 bales are compressed and contained with metal straps)
 - ✘
AWEX Cost of RFID tags that may survive wool supply chain was too high
- ✘
AWEX AWEX recommenced its research into Electronic Bale Identification (e-Bale) in 2013

e-Bale: Potential Benefits



Improve on-farm data collection using electronic Wool Classifier's Specifications (e.g. WoolClip)



Improve information flow from farm to warehouse to processing mill









Increase efficiencies in supply chain traceability, logistics management and quality control

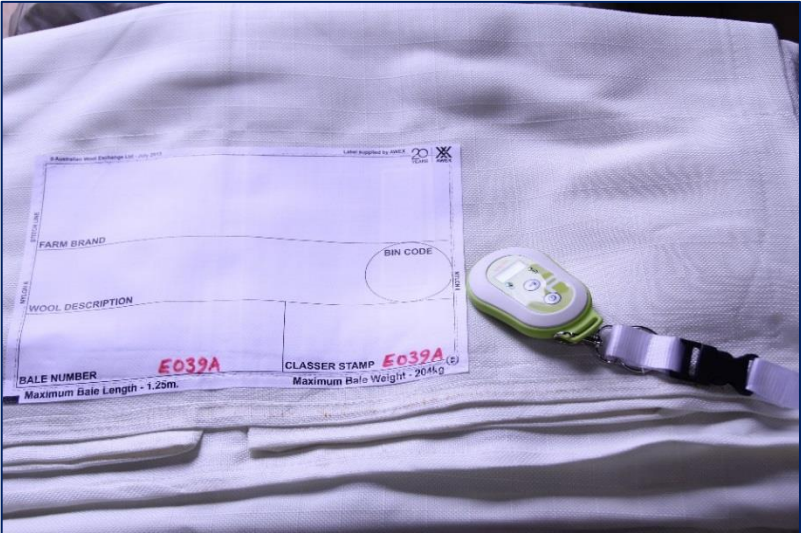
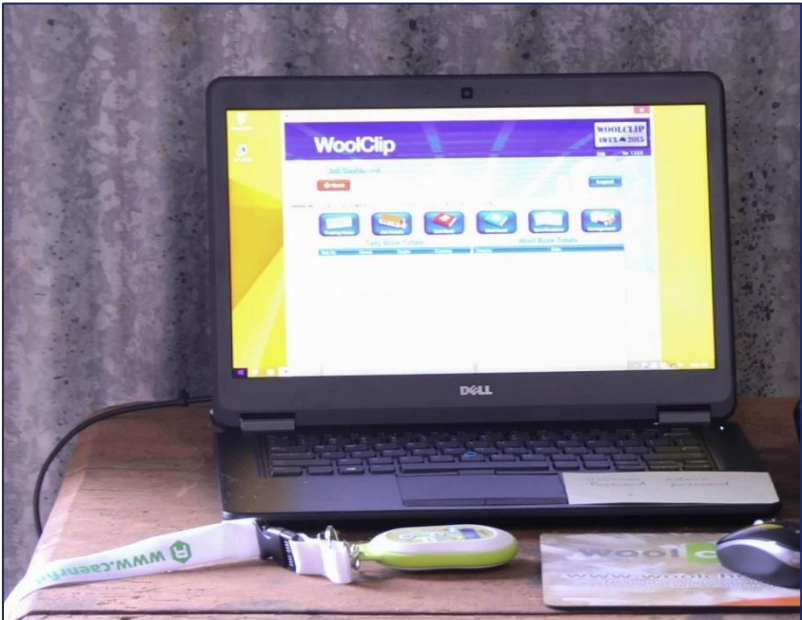


Identification of wool bales; for example, in the event of lost bales or an exotic animal disease outbreak

e-Bale: Pre-Requisites for Tags

-  Tags could be read at a distance of >2 m
-  Tags could survive dumping and be read in a double/tri-pak
-  Multiple tags could be read simultaneously
-  Tags available at a price of <US\$1 each
-  Passive UHF tag selected based on fulfilling these requirements
-  Standardisation of tag type across the wool industry is critical to keep costs to a minimum

e-Bale: On-Farm Use



e-Bale: Arrival at Wool Store

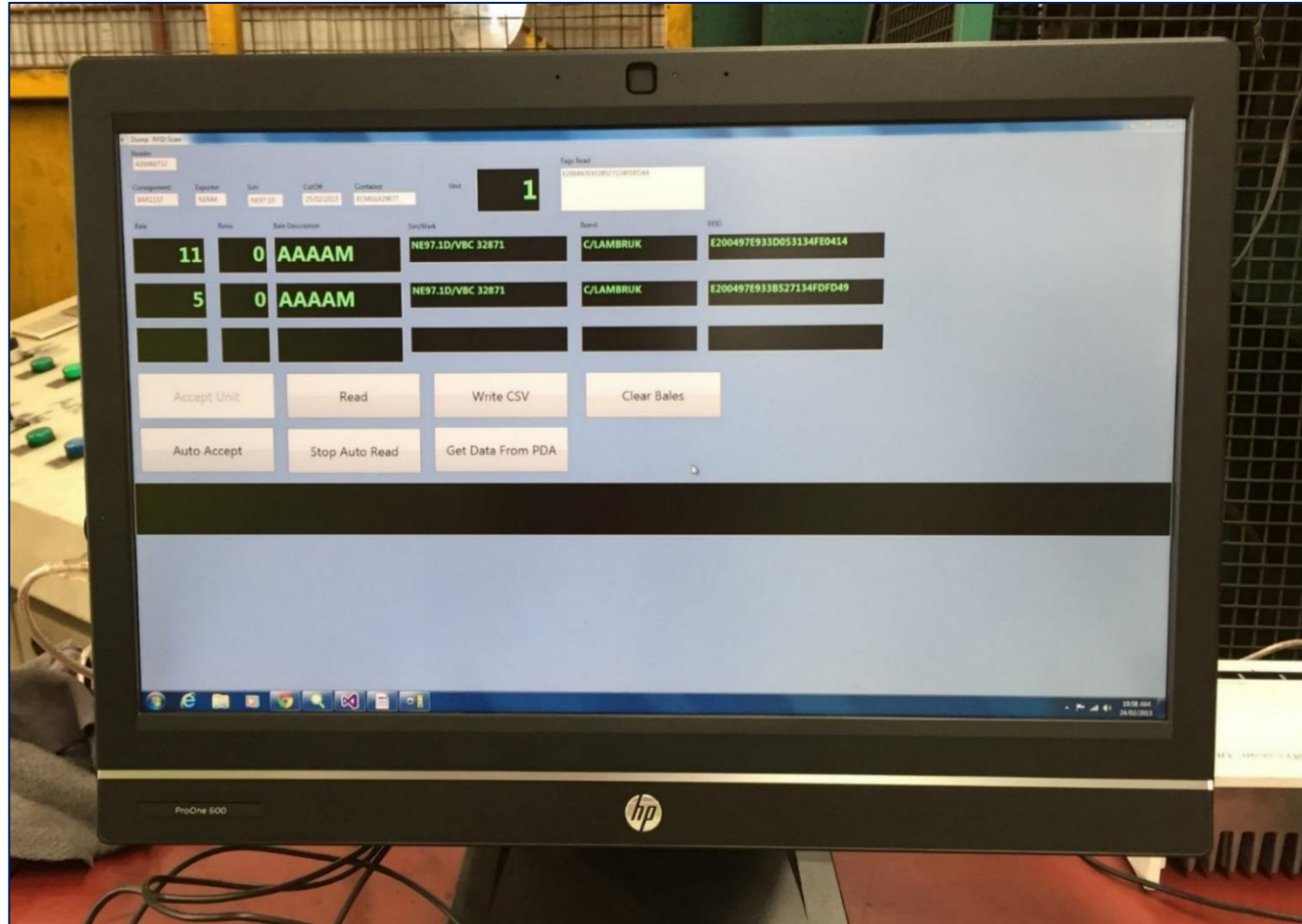


e-Bale: In-Store Use



e-Bale: 3 Bales in Tri-pak Linked

Read one tag and know the others by association





e-Bale: Bales through Dump



e-Bale: Reading Tri-Paks at Mills



Pettinatura Romagnano, Italy



Nejdek Wool Combing, Czech Republic

e-Bale: Future



Introduction and demonstration of e-Bale in China



Plan, prepare and conduct a large scale Australian trial, including extension and education programmes



Review results of the trial in consultation with industry stakeholders



Evaluate the benefits of e-Bale along the supply chain



Consider the next steps

e-Bale: Acknowledgments



Australian Wool Exchange Ltd



AWH Pty Ltd



New England Wool Pty Ltd
Pettinatura Romagnano, Italy



Modiano (Australia) Pty Ltd
Nejdek Wool Combing, Czech Republic



Moses and Son Pty Ltd



Elders Ltd

e-Bale Technical Working Group: John Keniry (Chairman), Kerry Hansford (Secretary), Mark Grave (AWEX), Andrew Blanch (New England Wool), Craig Finlay (AWH), Charlie Merriman (WoolProducers) and AWEX's Industry Services Advisory Committee.

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