

Secure Source Verification Solutions

August 22, 2006

Consumer Trust

Consumers will continue to make food choices based on taste and/or time – in other words, products that people find attractive to their evolving tastes or that save them time in a hectic lifestyle will continue to find favor. But the critical factor that is determining the future of the meat industry is Trust – trust in product integrity, trust in food safety, and trust in each of the companies along every step of the supply chain.

This is not theory or conjecture – this is what customers are telling us every day,

Source: **Mr. Gary Johnson**

Senior Director, Worldwide Supply Chain Management, McDonald's Corporation

Abstract from 2006 World Meat Congress - Brisbane

Secure Solutions = Consumer Trust

- Forensic proof of animal identity
- Tamperproof evidence of animal location
- Data security and integrity
- Delivery of information to consumers

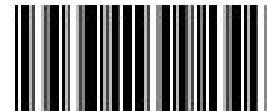
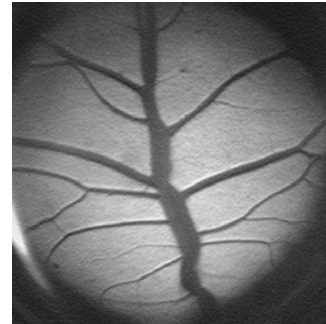
OB Core Technology: The Retinal Vascular Pattern

- Unique to every animal
- Each eye is different
- Does not change from birth to hours after death
- Can not be altered, lost or changed
- Link to GPS time, date & location data to provide secure traceability



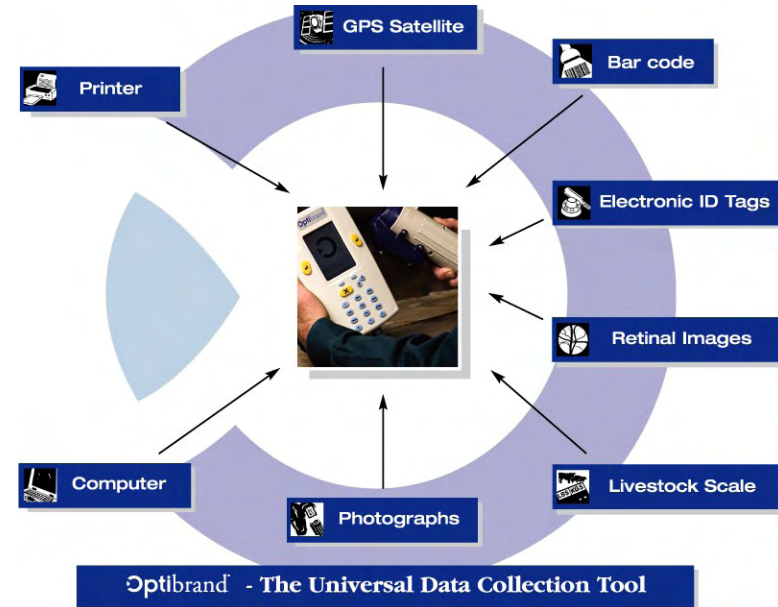
OB Core Vision: Universal Data Collection

- Retinal images
- RFID tags
- Bar code tags
- Printed or hand-written tags
- Photo documentation
- Link to GPS time, date & location
- Secure and fraud resistant



Secure Source Verification Solutions

- Secure Disease Control
- Secure Asian Export
- Secure Age Verification
- Secure Livestock Show
- Secure Calf Grower
- Secure Collateral
- Secure Processor
- Secure Integrated Supply
- Secure Theft Prevention



Secure Disease Control – High Risk

- Indemnity/Subsidy Monitoring
- Border Control
- Quarantine Control
 - TB positive herds
 - Brucellosis positive herds

Department of Agriculture and Rural Development

This is Fraud!



- Deliberate introduction of Brucellosis
- Deliberate interference with a TB test
- Ear tag switching
- Illegal movement of livestock
- European Union Grant & Subsidy Fraud
- Livestock Subsidy Fraud

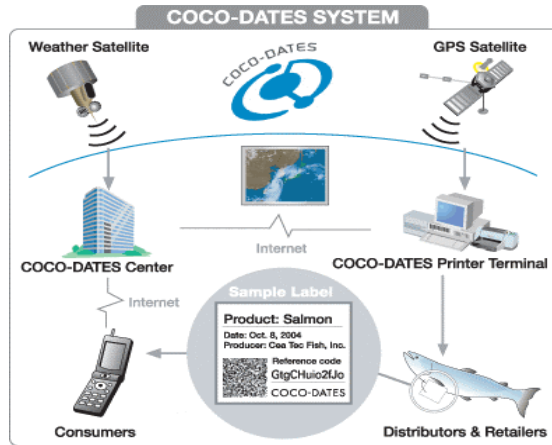
Fraud is a crime at everyone's expense!
...and it costs millions

The Department is determined to crack down on Fraudsters but we need your help!

If you think someone is engaged in illegal activity call the DARD Fraud Hotline
0808 1002716
or report fraud on-line
www.dardni.gov.uk/investigations

Department of Agriculture and Rural Development
www.dardni.gov.uk

Secure Asian Export – Combined Approach



- Mitsubishi Electric (MELCO) – COCO Dates
- Traceability in Japan
- Method of delivering data to the consumer
- Compatible with most cell phones



Optibrand & MELCO Combined Technology

Optibrand United States Supply Chain

AVS/MELCO Japan Retail and Consumer Marketing

Data

Optibrand Japan US beef site

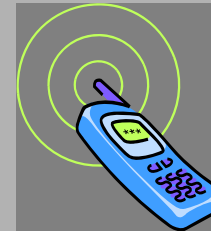
Data



New-code



New-code



Birthday 2003-8-5
Born at Acme Ranch



Fresh slice meat for beef bowl
Pack date 2005-11-30
Swift & Co, Greeley plant, est #969
factory line 1



Secure Age Verification

- OptiReader™ captures and encrypts
 - Digital image of dentition status
 - GPS coordinates
 - Time and date
 - Retinal vascular pattern
 - Visual animal ID
- Dentition status identifies cattle that are < 24 months at time of scan
- Cattle slaughtered within 180 days of this scan are < 30 months of age
- Accepted by USDA-FSIS as an auditable record of cattle age



Secure Age Verification Discount Economics

- Discounts range from \$30-\$40/cwt for animals identified as > 30 months
- Current quantities are 0.5% to 10+% per lot
- Costs to feedlot operator:
 - At 100,000 head annually, 1.0% = 1,000 head.
 - $1,000 * \$40/\text{cwt discount (756 lb carcass)} = 1,000 * \$302.40 =$
\$302,400 or \$3.02 per head.
 - $1,000 * \$30/\text{cwt discount (756 lb carcass)} = 1,000 * \$226.80 =$
\$226,800 or \$ 2.27 per head.

Secure Livestock Show

- Verify or re-establish identity of high value livestock
 - Visual ID verification
 - Digital ID verification

Jr. Market Steer

Owner's Name: mma clark
Animal Tag #: r553

Species: Bovine
Breed: n/a

Eye One



Eye Two

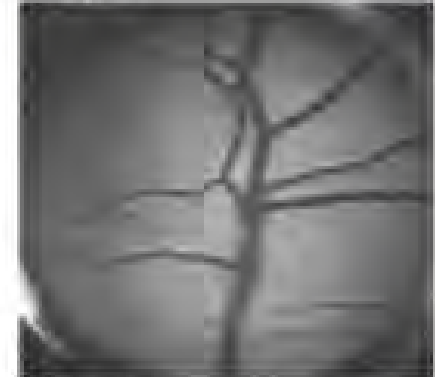


Photo One



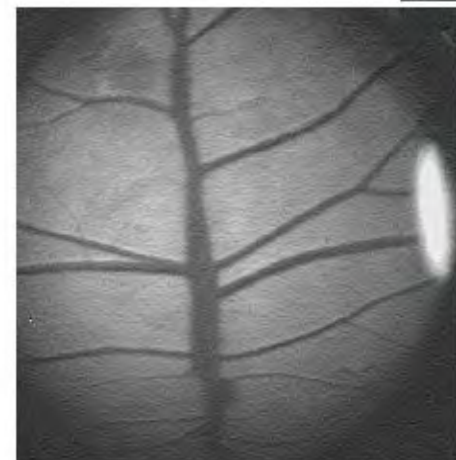
Photo Two

Enrollment Date: 2005-11-23 14:32:40.0
Device ID: f04c04e0450
County: Gold County, CO
Latitude: 40.782328
Longitude: -105.045738
Verification: _____

Notes:
Animal ID will be verified at County Fair
Information Collected By:
Chad Smith
Gold County Extension



Geburtsdatum 11 11 1997
Ohrmarke 057710507909
Rasse SBT





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Rasse SBT

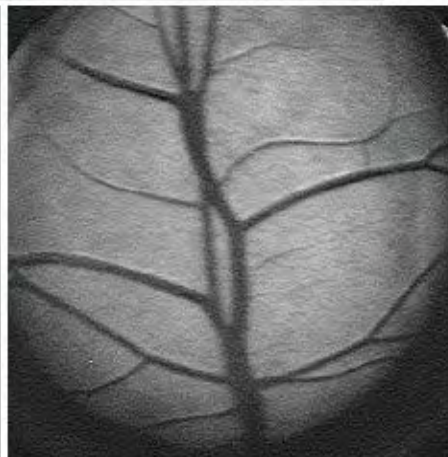
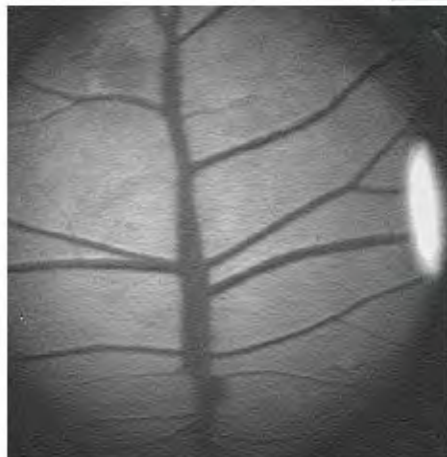


Image 1

Retinal Image

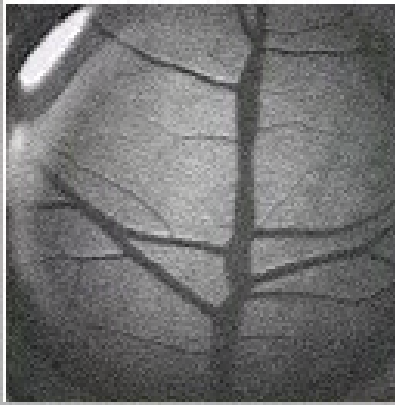


Image Template

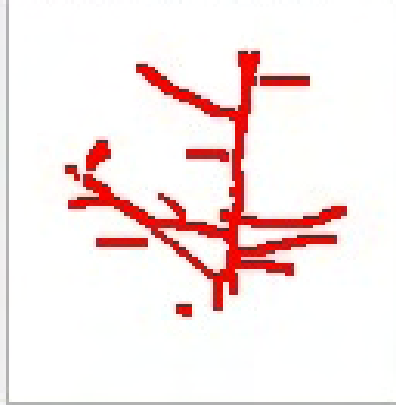


Image 2

Retinal Image

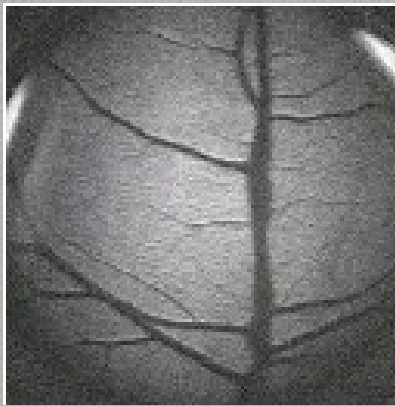


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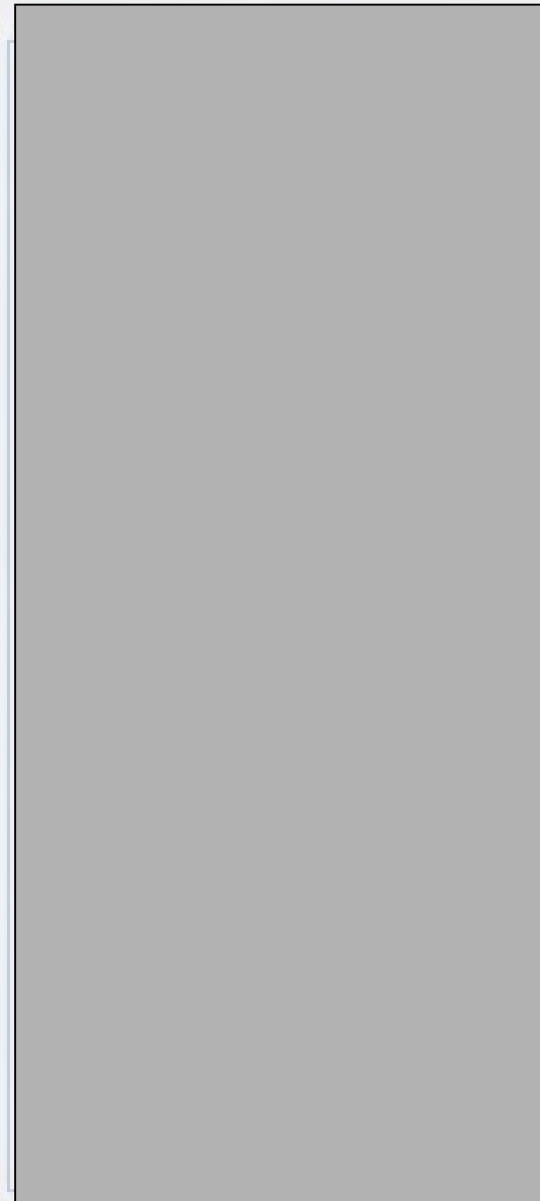
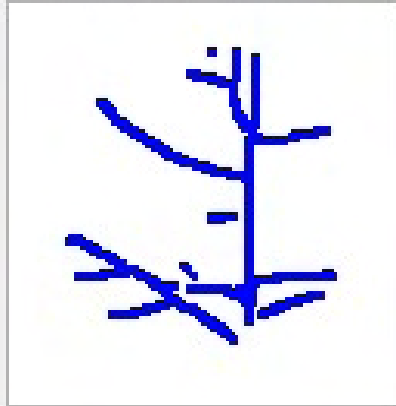


Image 1

Retinal Image

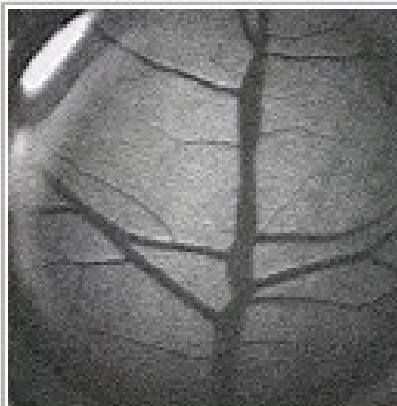
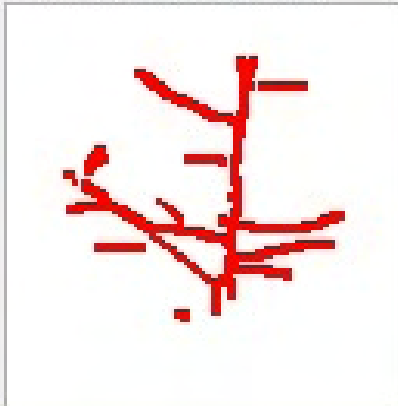
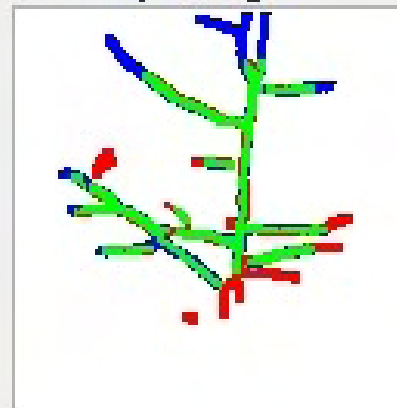


Image Template



Match Output

Overlay Image



Overall
Score: 100.00

Cancel Match

Show Report

Close

Image 2

Retinal Image

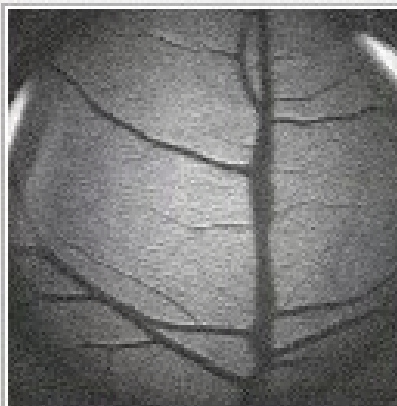
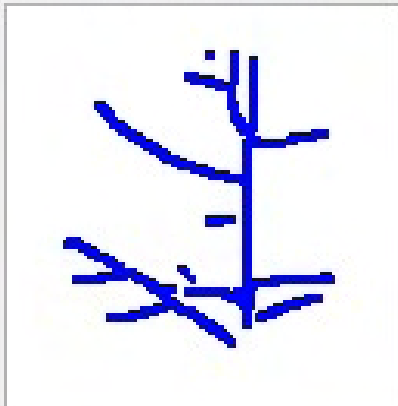


Image Template



Re - establishing identity : CSU - ECRC

- July 14, 2004; n = 115 cows
 - RFID tag numbers and retinal images recorded
- October 2, 2004; n = 115 cows
 - 35 lost original RFID Tags (30.4%)
- Analysis
 - ID correctly confirmed in 80 animals w/ original RFID
 - Original RFID tag number re-established for all animals that lost tags from July to Oct.

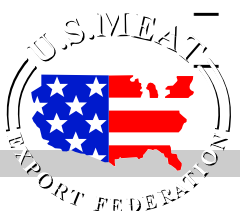
Northern Ireland Dept. of Ag. Evaluation

- *System can verify an animal ID with 100% accuracy*
 - Imaged 306 ARINI dairy animals
 - 1142 images from 273 of these animals collected at later date.
 - ALL 1142 re-tests matched the original ID.
- *System can detect fraudulent ID switching with 100% accuracy*
 - Fraud scenario – 113 animals with switched official Northern Ireland ID system tags
 - No images from animals with switched tags matched the original retinal ID for that animal

Global Trends - “New Realities”

- Consumers are becoming increasingly concerned about food safety. Brands/traceability are becoming more important.
- Plate to Gate, not Gate to Plate
 - Market is being driven by consumers, not producers
 - Information is the cost of admission
- Competition for export markets is intensifying.
- “Story Meat”
 - Voluntary
 - Marketing tool
 - Shows Producer, Farm and CattleLet's consumers know someone stands behind products

Source: USMEF



Secure Source Verification Solutions

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