



# trace r&d | 2009

## Diamond/Diamant

Canada 

## Platinum/Platine



## Gold/Or

Manitoba 

 Ontario



## Silver/Argent

Alberta

IBM<sup>®</sup>

  
ManitobaPork

CANADIAN  
**Cattlemen**  
THE • BEEF • MAGAZINE

## Bronze/Bronze

Alberta Farmer Express  
Canadian Poultry Magazine  
Canadian Wheat Board /  
Commission Canadienne du blé

Consumer & Marketing Demand Network  
Gallagher Canada  
Grainnews  
Intelliware Development Inc.

Manitoba Co-operator  
On Trace  
Trace it Solutions

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# How to Build a Beef Value Chain & Get Traceability for Free



*Trace R&D 2009 – Winnipeg, Manitoba*



# Award Winning Innovation

“2006 Gold Medal for  
Excellence in Innovation”



**BusinessSolutions**  
*Growth Strategies For The IT Channel*

“2007 Channel Innovator  
Award in the RFID Category”

“2007 Most Innovative Third-Party  
Technology Provider”



*Trace R&D 2009 – Winnipeg, Manitoba* 4

# Beef Value Chain



# Beef Value Chain Objectives

- Deliver consistent quality & quantity
- Manage risks
- Share the benefits (\$)



# Beef Value Chain Information Management

- Production
- Source & age verification
- Animal health
- Food safety



# Beef Value Chain Best Practices

- Animal & product identification
- Data collection
- Data sharing



# Beef Value Chain Livestock Technology

- RFID tags – Animal identification
- Handheld computers & RFID readers
- Web services – CLTS Events
- Website & e-mail – Carcass data



# Beef Value Chain Slaughterhouse Technology

- RFID tags – Animal identification
- Web services – CLTS Events
- Real time RF wireless network & RFID readers
- GS1 barcodes – Boxed beef ID



# Beef Value Chain Software & Databases

- Canadian Livestock Tracking System
- Trax-IT<sup>®</sup> Livestock
- Trax-IT<sup>®</sup> Slaughterhouse
- Trax-IT<sup>®</sup> Lab
- Trax-IT<sup>®</sup> Value Chain





# Beef Value Chain

## Beef Cut Identification



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# Beef Value Chain

## Boxed Beef Identification



***GS1 DATA: AI (01) = GTIN, AI (13) = Pack Date, AI (3202) = Weight in Lbs, AI (10) = Lot Number, AI (21) = Serial Number***

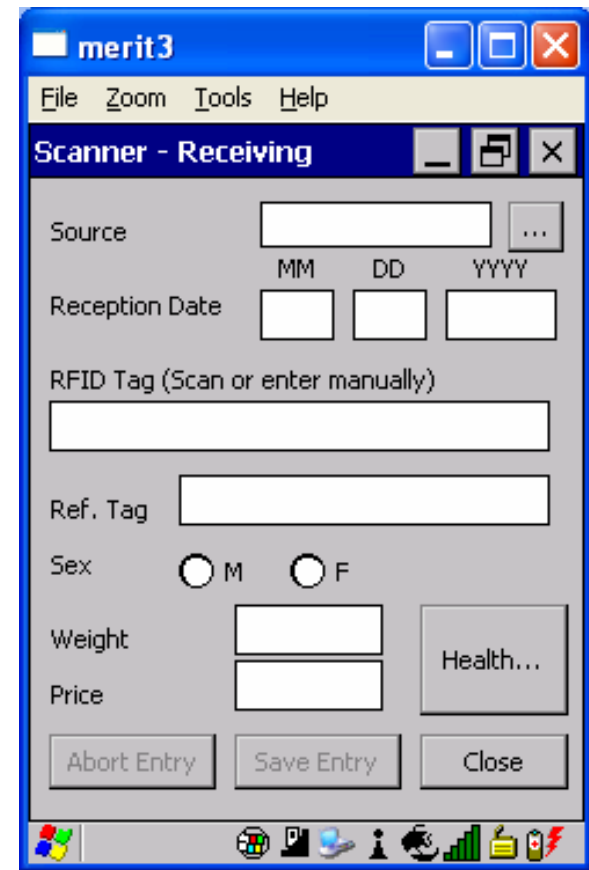
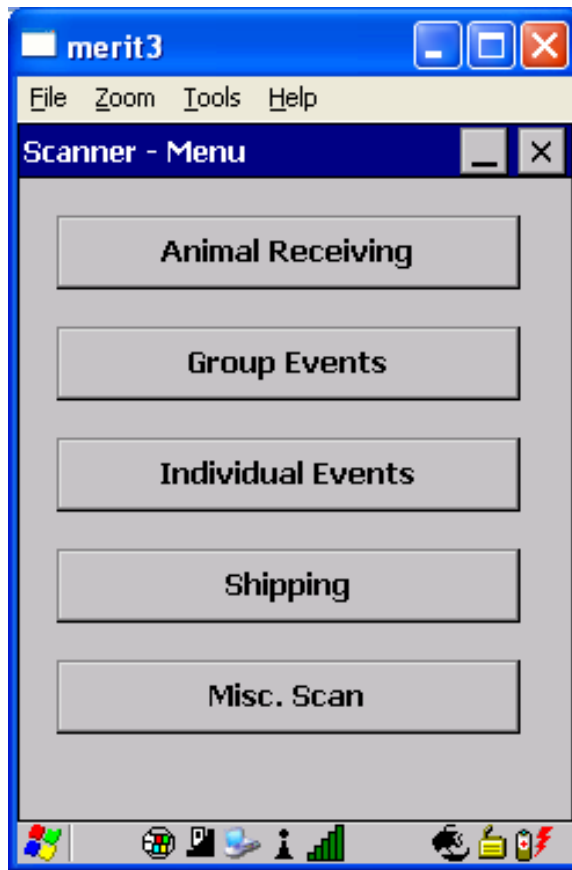


# Beef Value Chain Producer Data Collection



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# Beef Value Chain Trax-IT<sup>®</sup> Livestock Management



# Beef Value Chain Trax-IT<sup>®</sup> Livestock Management

CCIA Les Viandes Laroché Animal Information System Version 1.1 Merit-Trax Technologies Inc.

**Animal Master**

CCIA Code: 124000310001430

CCIA last 4: [ ]

Producer: producer1

CCIA Father: [ ]

CCIA Mother: [ ]

Sex: M

Birth Date: [ ]

Bath Weight: [ ] Kgs

Breed: [ ]

Purchase Cost: 90.00

Feed Rate: [ ]

Purchase Cost into Feedlot: [ ]

Number of Days in Feedlot: [ ]

Feed Cost: [ ]

Misc Cost: [ ]

Total Cost: [ ]

Last Medical Date: [ ]

Hold Days: [ ]

Medical Comments: [ ]

Comments: [ ]

Sold to: [ ]

Shipped Date: [ ]

Report Audit Feedlot History CCIA

Conformity  
horns type:  No  Yes Letter: [ ] Number: [ ]

Feedlot	Weight	Kgs	Date	Lbs Daily	Kgs
Entry	910.0		2007-05-01		
Weight 1					
Weight 2					
Weight 3					
Weight 4					

Slaughter	Weight	Kgs	Date	Lbs Daily	Kgs
Hot Weight					
Cold Weight					
Yield %					
Shrinkage %					
Grade					

Created: User [ ] Date [ ] Modified: User [ ] Date [ ]

Add Update Delete



# Beef Value Chain Trax-IT<sup>®</sup> Livestock Events

CCIA Animal Information System Version 1.1

Animal Events: Move In [Get Animal]

CCIA TAG	BIRTHDATE	DOB METHOD	SEX	SPECIES	BREED	COLOUR	PRODUCER
124000310001430			M				producer1
124000310001431			M				producer1
124000310001432			M				producer1
124000310001433			M				producer1

Register

CCIA TAG	STATUS	MESSAGE
124000310001430	SUCCESS	The events have been successfully submitted for processing. For your reference
124000310001431	SUCCESS	The events have been successfully submitted for processing. For your reference
124000310001432	SUCCESS	The events have been successfully submitted for processing. For your reference
124000310001433	SUCCESS	The events have been successfully submitted for processing. For your reference



# Beef Value Chain Trax-IT® Livestock Events

CCIA - Les Viandes Laroche      Animal Information System Version 1.1      Merit-Trax Technologies Inc.

Code tables  
Animal Master VL  
Animal Master AP  
Reports  
CCIA  
  Animal Events  
  Birth Certificate  
  Default Information  
User  
Perm

### Birth Certificate

Birthdate Certificate	
CCIA TAG	
<input checked="" type="checkbox"/>	124000310001430
<input checked="" type="checkbox"/>	124000310001431
<input checked="" type="checkbox"/>	124000310001432
<input checked="" type="checkbox"/>	124000310001433

Birth Certificate

Report

### Birth Date Certificate

Birth Date Certificate

Certificate ID: AC3333HC4CE  
 Audit State: No Audit Finding  
 Date Generated: 27-Feb-2008 12:53 MST  
 Generated By: Steve Smith

This Certificate was created for:  
 Merit-Trax Technologies Inc. - Producer2  
 633 Main St., Suite 650  
 Moncton, QC  
 Canada, H6P 1K3

Status	Start Tag #	End Tag #	Birth Date	Age (Months)	Comments	Qty
	00 0124000310001430	00 0124000310001430	01-Jul-2006	20		1
	00 0124000310001431	00 0124000310001431	02-Jul-2006	20		1
	00 0124000310001432	00 0124000310001432	03-Jul-2006	20		1
	00 0124000310001433	00 0124000310001433	04-Jul-2006	20		1
<b>Total:</b>						<b>4</b>

start    Laroche\_Animals - ...    Microsoft SQL Serv...    Windows Explorer    Doc1.doc - Microso...    CCIA-Les Viandes ...    EN    2:54 PM





# Beef Value Chain RFID Trolley Tracking System



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# Beef Value Chain RFID Trolley Tracking System



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# Beef Value Chain Trax-IT<sup>®</sup> Slaughterhouse

VIP 4.11 Thoroughbred Software International, Inc.  
System Options Help

MERIT-TRAX SQL DATA

RecNo	AntennaID	LogDate	Tag	Weight	NbRead	Voltage
456	04	15/12/2004 7:05:48 PM	04204C4E30	807.00 N	1	9.1
457	04	15/12/2004 7:05:55 PM	04204C4E39	807.00 N	3	9.1
460	04	15/12/2004 7:22:47 PM	04204C323A	774.00 N	5	9.1
461	04	15/12/2004 7:22:54 PM	04203A4A85	774.00 N	5	9.1
464	04	15/12/2004 7:36:24 PM	04204D9E84	798.00 N	4	9.1
465	04	15/12/2004 7:36:55 PM	04204D8E4B	798.00 N	5	9.1
468	04	15/12/2004 7:47:16 PM	04204D9452	742.00 N	5	9.1
469	04	15/12/2004 7:47:23 PM	04204DA692	742.00 N	4	9.1
470	04	15/12/2004 7:49:31 PM	04204DA527	695.00 N	5	9.1
471	04	15/12/2004 7:49:38 PM	04204C323D	695.00 N	6	9.1
474	04	15/12/2004 7:55:15 PM	04204DA11D	634.00 N	5	9.1
475	04	15/12/2004 7:56:31 PM	04204DFE35	634.00 N	3	9.1
476	01	16/12/2004 2:44:05 PM	04204D8AE5		0	9.1
477	03	17/12/2004 10:08:38 AM	04204C237B		1	9.1
478	03	17/12/2004 10:09:19 AM	04204DA2C1		15	9.1



# Beef Value Chain Carcass Identification



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# Beef Value Chain Trax-IT<sup>®</sup> Value Chain Website

Untitled Page - Microsoft Internet Explorer

Address: http://142.176.186.206:8083/displayInfo.aspx

[LogOut](#)

Atlantic Beef Products Information												
BackTag Number Range:												
Search Result For 001501 to 001504												
Details	BackTag	ProducerTag	CCIATag	Date Killed	Sex	Grade	Yield	OTM	Hot Weight	Price	Discount	Total
<a href="#">Details</a>	001501		124000310001430	04 Jan 2008	S	AAA	57	N	857	1.30	0.00	1114.10
<a href="#">Details</a>	001502		124000310001431	04 Jan 2008	S	AAA	59	N	838	1.30	0.00	1089.40
<a href="#">Details</a>	001503		124000310001432	04 Jan 2008	S	AA	59	N	852	1.30	0.00	1107.60
<a href="#">Details</a>	001504		124000310001433	04 Jan 2008	S	AAA	56	N	744	1.30	0.02	952.32

Done Internet



# Beef Value Chain

## Trax-IT<sup>®</sup> Value Chain Carcass Data

Back Tag	Sex	CCIA Tag	Producer Tag	Date Killed	Grade	Invoice Discount	Invoice Amount
1501	S	124000310001430		4-Jan-08	AAA	0	1114.1
1502	S	124000310001431		4-Jan-08	AAA	0	1089.4
1503	S	124000310001432		4-Jan-08	AA	0	1107.6
1504	S	124000310001433		4-Jan-08	AAA	14.88	952.32

Receipt Number	Hot Weight	Condemned	OTM	Yield	Atlantic Choice	Cull	Price per Pound	Discount Per Pound
5822	857		N	57		N	1.3	0
5822	838		N	59		N	1.3	0
5822	852		N	59		N	1.3	0
5822	744		N	56		N	1.3	0.02



# Beef Value Chain Trax-IT<sup>®</sup> Slaughterhouse

VIP 4.11 Thoroughbred Software International, Inc.

System Options Help

<ENTER>=Select, F4=Quit

> RFID HOOKS <

HOOK-RFID	HOOK-LOCATION NOW	ANIMAL NUMBER	KILL NUMBER	PDT-CODE	GRADE CODE	COLD-WEIGHT	COLD WEIGHT-UM
04204C30D3	080	111	11	GRADED-HQ	AA	351.0000	LB
04204DA7F7	080	111	11	GRADED-HQ	AA	346.0000	LB
04203A4A85	090	89	9	GRADED-HQ	AA	386.0000	LB
04204C237B	090	113	11	GRADED-HQ	AA	392.0000	LB
04204C2408	090	114	11	GRADED-HQ	AA	361.0000	LB
04204C248C	090	101	10	GRADED-HQ	AA	403.0000	LB
04204C248D	090	103	10	GRADED-HQ	AAA	395.0000	LB
04204C26C4	090	96	9	GRADED-HQ	PRIME	366.0000	LB
04204C26CF	090	93	9	GRADED-HQ	AAA	402.0000	LB
04204C2809	090	102	10	GRADED-HQ	AA	369.0000	LB
04204C295A	090	50	7	GRADED-FQ	AA	395.0000	LB
04204C29CE	090	108	10	GRADED-HQ	AA	336.0000	LB
04204C2E6F	090	100	10	GRADED-HQ	AA	400.0000	LB
04204C2F65	090	84	8	GRADED-HQ	AA	389.0000	LB
04204C3147	090	97	9	GRADED-HQ	AA	376.0000	LB
04204C3239	090	101	10	GRADED-FQ	AA	403.0000	LB
04204C323A	090	49	7	GRADED-HQ	AAA	376.0000	LB
04204C323B	090	106	10	GRADED-HQ	AA	323.0000	LB
04204C323D	090	99	10	GRADED-FQ	AA	372.0000	LB



# Beef Value Chain Carcass Tracking



# Beef Value Chain

## Beef Cut Identification



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# Beef Value Chain RF Wireless System



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# Beef Value Chain

## Boxed Beef Identification



***GS1 DATA: AI (01) = GTIN, AI (13) = Pack Date, AI (3202) = Weight in Lbs, AI (10) = Lot Number, AI (21) = Serial Number***



# Beef Value Chain Trax-IT® Warehouse

> WO - CASE / PALLETS < ...

Production-Pallets-Cases

Cut No  Rel

Product

Pallet

Case Scan

Lot Number	Case Count
<input type="text" value="003080109"/>	<input type="text"/>

Location	Transaction
Transaction	9 #003080109 - 1
PRODUCTION RECEIPT	
Warehouse	1
Rack Label	01001A
Location	01 - 001 A -
Pallet Label	000012345000008291
Lot Number	003080109
Lot Label	
Client Code	2036
Product Code	003
65 CL Trim UTM Frozen	
Quantity	3.0000 CS



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# Beef Value Chain Trax-IT<sup>®</sup> Slaughterhouse

The screenshot displays the Trax-IT Slaughterhouse software interface. The main window is titled "TRACEABILITY INQUIRY - CASE" and shows the following information:

- Product: 005
- Packed: 08-NOV-2005
- Case Serial: 000377

A sub-window titled "TRACEABILITY - CASE / ANIMAL" displays a table of animal records:

Lot No	Case Serial	Cut System ID Number	Animal No	Cust	Invoice
005051108	000377	30000002941	7583	B0NF00	862
005051108	000377	30000002941	7600	B0NF00	862
005051108	000377	30000002941	7602	B0NF00	862
005051108	000377	30000002941	7603	B0NF00	862



# Beef Value Chain Trax-IT<sup>®</sup> Slaughterhouse

VIP Thoroughbred Software International, Inc.

System Options Help

TRACEABILITY INQUIRY - ANIMAL <

MERIT-TRAX TECHNOLOGIES INC. 08/01/08 09:03:12  
000

GPM

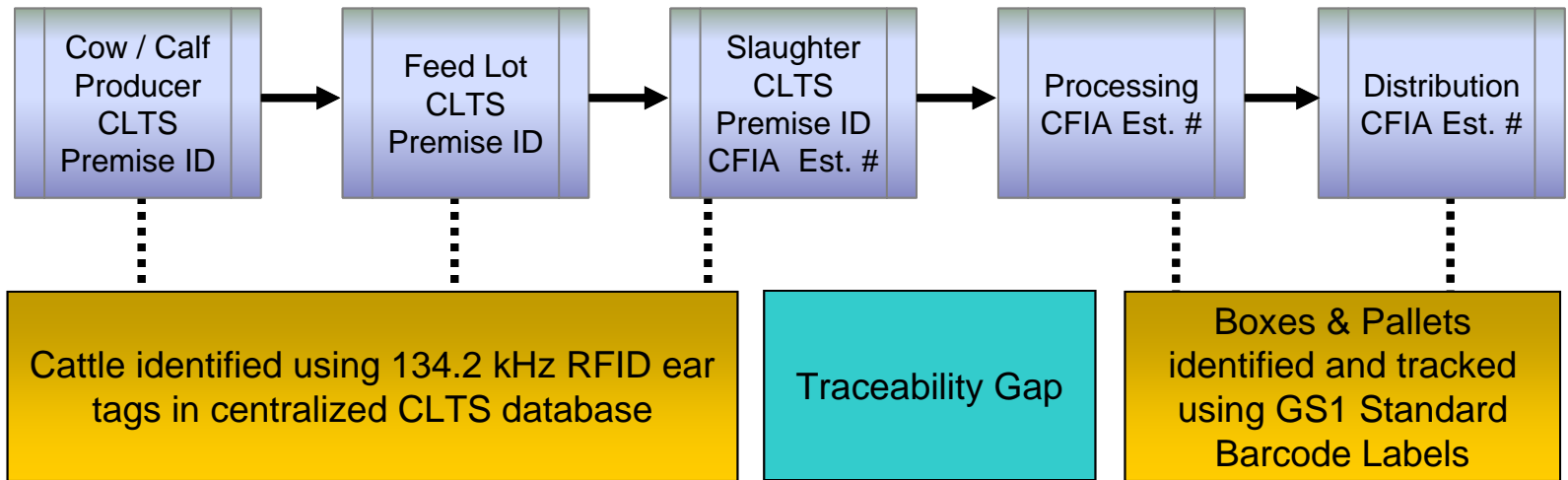
Traceability Inquiry: Animal 7600

Lot No	Case Serial	Cut System ID Number	Animal No	Cust	Invoice
003051108	000374	30000002937	7600	C&CPAC	1101
003051108	000375	30000002938	7600	C&CPAC	1101
003051108	000376	30000002939	7600	C&CPAC	1101
003051108	000379	30000002944	7600	C&CPAC	1101
003051108	000380	30000002945	7600	C&CPAC	1101
003051108	000381	30000002949	7600	C&CPAC	1101
003051108	000386	30000002957	7600	C&CPAC	1101

F3=Report F4=Quit F7=Animal Info F8=Case Info



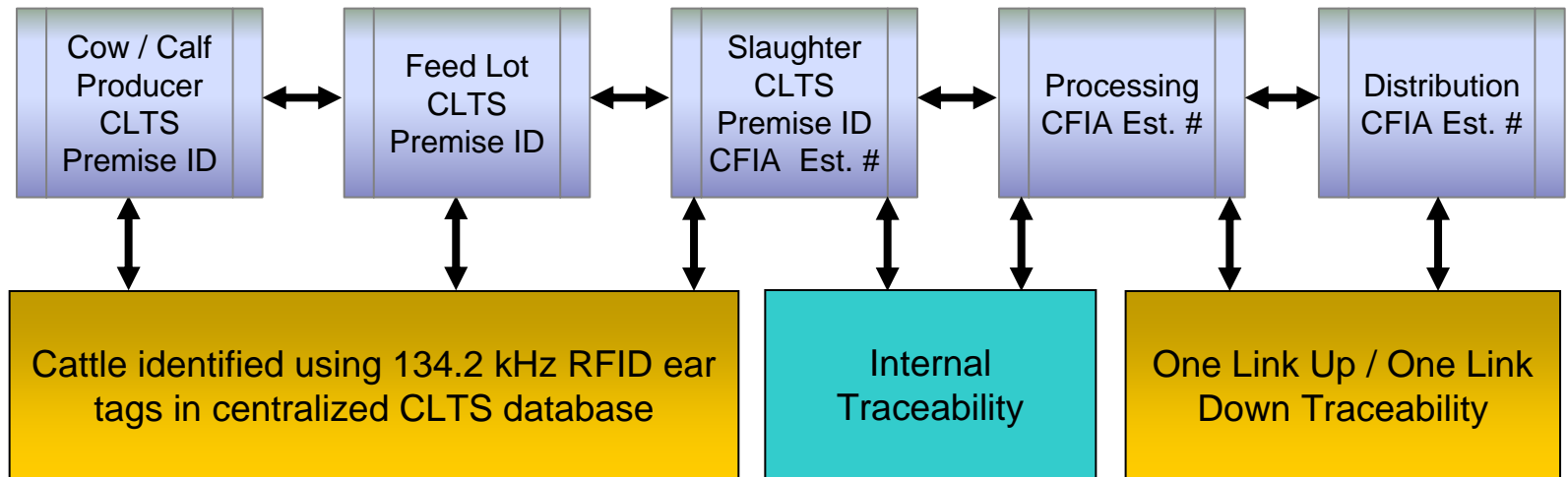
# Beef Value Chain Traceability



→ *Traceable Item Physical Flow* →



# Beef Value Chain Traceability

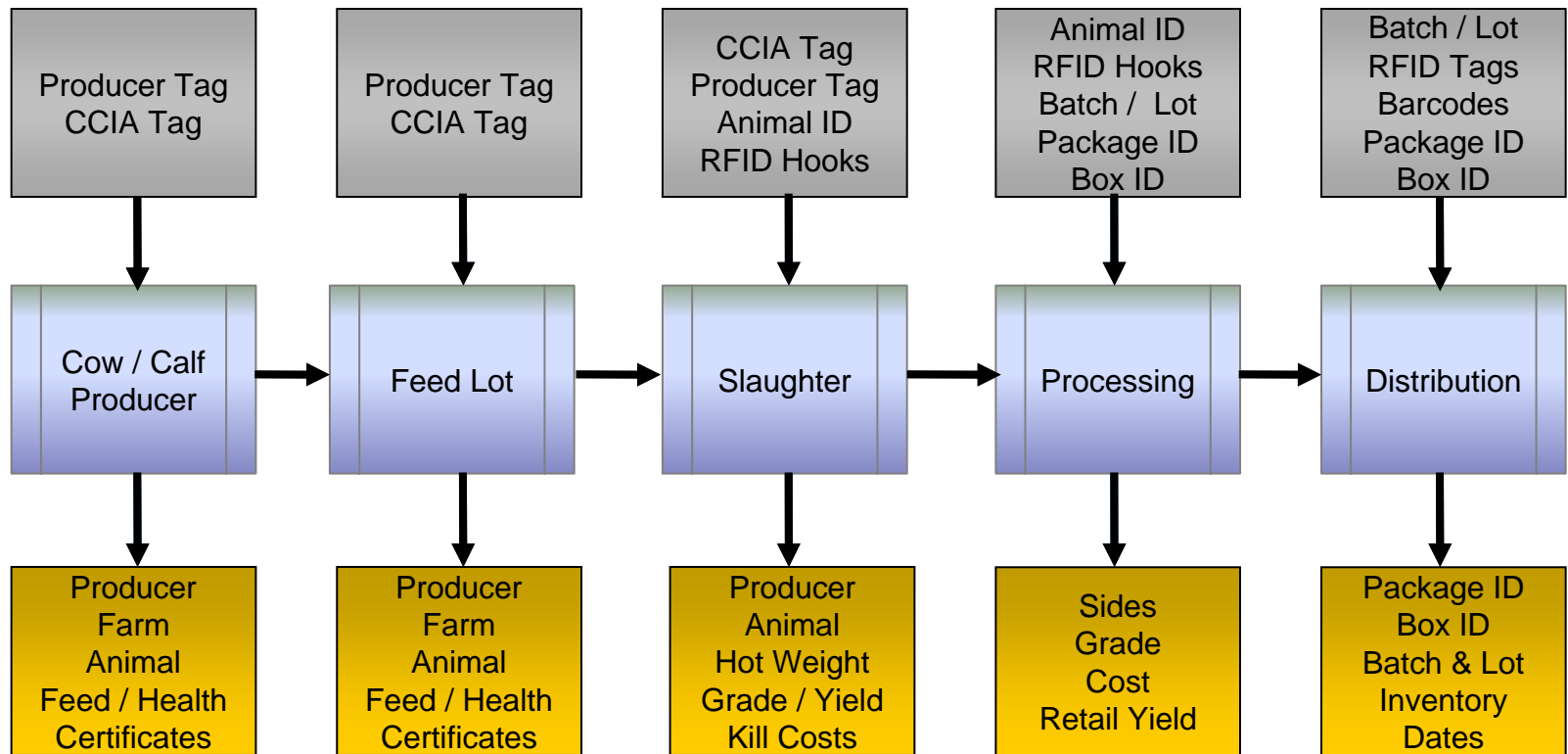


## *Traceability Data Flows*



# Beef Value Chain

## Bridging the Traceability Gap



# Merit-Trax Technologies Innovation in Action



Agriculture and  
Agri-Food Canada



**Atlantic**  
BEEF PRODUCTS



LES VIANDES DE LA  
PETITE NATION



BRITISH  
COLUMBIA  
The Best Place on Earth



Canadian Food  
Inspection Agency



*Trace R&D 2009 – Winnipeg, Manitoba* 39

# Merit-Trax Technologies Authorized Reseller

## Trax-IT<sup>®</sup> Livestock Systems Western Canada



**1 (877) 856-1199**



***Trace R&D 2009 – Winnipeg, Manitoba 40***

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***Trace R&D 2009 – Winnipeg, Manitoba***