



traceability
and
backward
traceability



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1. Introduction to the system

S.I.R.I.A., *the application software for the backward traceability of beef Meat*

industries is a specific and complete software application that can be integrated with EGGs web management software and has been developed to solve specific problems of industries dealing with the slaughter, manufacture and trading of beef meat.

The single and coherent system structure avoids data duplications and all functions in the system have been designed to perfectly match corporate operational needs (for ex. operators have at their disposal functions keys to move across the whole system).

Integrated tools have been designed to be user-friendly and help functions (like searches without codes, guided and customized insertions,..) have been provided in the whole system as well.

System administrators can define the level of control they want to have on the system in order to create a software environment which is in line with habits, practice and responsibilities of the corporate staff.

2. basic modules

2.1. basic data sets

The “basic data sets” module manages data about customers, suppliers and items that are shared by (and so common to) the whole information system.

Operators can search information using "windows" and different search filters (like for code, corporate name, item, description).

The structure for each database has been created so that it can be exported to “software packages” like Word, Excel, Access and so on.

2.2. beef data sets

The beef data sets module collects data requested by the Ministry of Health about slaughtered animals.

For beefs and other slaughtered animals, the system allows the insertion of all information the slaughterhouse must communicate to authorities like

- animal code (earring mark)
- code of the last owner
- code of the country of origin
- date of slaughter
- weight of beefs carcass
- slaughter number



2.3. incoming “animals”

The incoming animals module manages simply and completely the stalling of animals that are going to be progressively slaughtered.

The acquisition function suggests the progressive number of the day for animal or for stock and information about suppliers and type of animals.

Operators can analyze animal stocks considering their number than weights, listing them for supplier, item or date.

The connection to weighing systems allows operators to gather information needed about animal weights.

2.4. warehouse

The “Warehouse” module solves completely all fiscal and operational problems about the warehouse.

The system allows operators to manage different warehouses in function of the corporate needs, two units of measurement for every item, items that are going to be sold out, an “item card” with a “historian” for every supplier from where it has been purchased.

It manages the link between reasons in order to get automatically movements and it allows operators to group movements for reason and document.

It is integrated with the following modules: shipment, incoming animals, sectioning and packaging for the automatic movement of shipment, reception, picked-up and payment.



2.5. slaughter reservation

The “slaughter reservation” module manages simply and completely all information about slaughter reservation.

In this module operators can insert data that allow the slaughter of the incoming animals.

Reservation management

Confirm Cancel

Reservation management

Type Number Date

Header Detail Create job ord.

Detail

Line type

Category BEEF

Description

Quantity

Slaughter date

Breeding DOMINIO DI ROSSI

Breeder ROSSI MARIO

Factory of origin

Supplier

Detail of reservation management

2.6. slaughter and weighting

The “Slaughter and Weighting” module allows operators to manage automatically or manually information about slaughter, that can be manually recorded or taken automatically from other devices (like for ex. weighing systems).

Considering the corporate policies, the system suggests automatically data about the conferment module like : “cold” weight and “hot” weight, sex, category (pig, beef and so on), type of beef, number of animals, number of cuts and the reason for a possible seize. In case of manual insertion, operators can add information about weights considering both “hot” than “cold” weight.

Once the slaughter number and the weight of cuts have been inserted, the system suggests automatically information needed in the following steps.

Exit Cancel

Summary

Number /

Date Slaughter date

Category BEEF Variant

Base Lines

Base

Hot weight

Cold weight

Comments

Exams before death Idatidosi Choose

Carcass classification Type of slaughter

Next

Confirm Cancel

Summary

Number
 Date Slaughter date
 Category BEEF Variant

Base Righe

Detail

Item BEEF RIGHT SIDE
 Weight
 Customer COOP. ROSSI
 Consignee COOP P. BIANCHI
 Clinical results FREE CONSUMPTION
 Warehouse SLAUGHTER WAREHOUSE
 Reason LOAD FROM WEIGHING INSTRUMENT
 Date of collection
 Comments

Esci Cerca Refresh

Weight insertion

Filters
 From slaught.date To slaught.date

Search results

SL.NR	SL.DATE	BREEDING	BREEDER	CUSTOMER	AGE	SEX	WEIGHT	TAG NR	
<input checked="" type="checkbox"/>	1	13/07/06	AZ.AGRICOLA X		ROSSI MARIO	126	M	150,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	2	13/07/06			ROSSI MARIO	0	F	166,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	1	19/07/06	DOMINIO DI BAGNO	ROSSI MARIO	ROSSI MARIO	19	M	300,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	3	19/07/06	AZ.AGRICOLA X		ROSSI MARIO	0		100,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	1	02/03/07	Fattorie Toscane di P	Fattorie Toscane di P	ROSSI MARIO	14	F	1,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	2	02/03/07	Fattorie Toscane di P	Fattorie Toscane di P	ROSSI MARIO	13	F	1,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	3	02/03/07	Fattorie Toscane di P	Fattorie Toscane di P	ROSSI MARIO	12	F	1,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	4	02/03/07	Fattorie Toscane di P	Fattorie Toscane di P	ROSSI MARIO	16	F	1,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	5	02/03/07	Fattorie Toscane di P	Fattorie Toscane di P	ROSSI MARIO	14	F	1,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	6	02/03/07	Fattorie Toscane di P	Fattorie Toscane di P	ROSSI MARIO	11	F	1,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	7	02/03/07	Fattorie Toscane di P	Fattorie Toscane di P	ROSSI MARIO	14	F	1,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	8	02/03/07	Fattorie Toscane di P	Fattorie Toscane di P	ROSSI MARIO	13	F	1,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	9	02/03/07	Fattorie Toscane di P	Fattorie Toscane di P	ROSSI MARIO	19	F	1,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	1	08/03/07	Stalla Nr. 102PD028	Az. Agr. LDRO F.LLI	ROSSI MARIO	17	M	1,00	<input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/>

2.7. meat labelling

Thanks to animal identification, the meat labelling module allows operators to find out where slaughtered meat cuts come from.

In the animal conferment, the system links univocally the animal to its related stock number, that can be for example the animal code (earring mark) or the serial number, the internal progressive number or

The system allows operators to recognize each slaughtered meat stock and so to "backtrace" the animal of origin.

2.8. sectioning and packaging

The sectioning and packaging module allows operators to follow "slaughtered meat cuts" throughout the whole manufacturing process.

After being slaughtered, animals are stocked in half parts or "quarters"; these are moved to working departments (sectioning and packaging) and they can be followed both reading the barcode of the incoming slaughtered meat than issuing single barcodes on outgoing "worked" cuts.

Using barcodes the system creates a unique link between "animal, incoming lot, outgoing lot".

Worked meat is stocked in the related warehouse (sectioning and packaging) waiting for further working phases or for the shipment.

The dispatch of orders may be done using handheld terminals than picking-up items from the warehouse.

The system manages also a central database with texts and barcodes with customizations for customer, language and product.

3. traceability and backward traceability

The traceability and backward traceability modules allow the company to follow slaughtered meat from the entrance of animals (and the related supplier) up to their final destination (the customer) and backwards.

3.1. traceability

Traceability is given by all information related to the poultry stock ("lot") that goes through the slaughterhouse: from the supplier's document to the customer's one, considering stalling, slaughter, selection, store and shipment as well.

An "earring code" is assigned to every single animal and it contains information about its beef passport and the date of slaughter. The system automatically assigns a lot, which is connected to an internal barcode, linked also to the following weights and warehouse loads.

Every new issued barcode tag is linked to the previous one in order to keep all information previously collected.

For every working done (sectioning and packaging), a new barcode is created which is linked to the previous one to save original information.

3.2. backward traceability

After the shipment the system allows operators to get information about the animals' origin (their country of origin, breed, sex, company that owned them for the last time, slaughter lot, sectioning lot, packaging lot and so on) up to the final customer for every single meat cut as well as for every lot/box.

Exit Search

Backward traceability information

Search Results

Fact.	War.	Cat.	Item	MU1	Qty 1	UM2	Qty2	Lot
Supplier				Slaughter dt				
01	1	B	BAS	NR	1,00	KG	37,50	01B00600007
30001 COOP. ROSSI				01/08/06				
01	1	B	BAD	NR	1,00	KG	37,50	01B00600008
30001 COOP. ROSSI				01/08/06				
01	1	B	BPS	NR	1,00	KG	37,50	01B00600009
30001 COOP. ROSSI				01/08/06				
01	1	B	BPD	NR	1,00	KG	37,50	01B00600010
30001 COOP. ROSSI				01/08/06				
01	1	B	BFR	NR	1,00	KG		01B00600011
30001 COOP. ROSSI				01/08/06				
01	1	B	BTR	NR	1,00	KG		01B00600012
30001 COOP. ROSSI				01/08/06				
01	1	B	BAS	NR	1,00	KG	41,50	01B00600013
30001 COOP. ROSSI				01/08/06				
01	1	B	BAD	NR	1,00	KG	41,50	01B00600014
30001 COOP. ROSSI				01/08/06				
01	1	B	BPS	NR	1,00	KG	41,50	01B00600015
30001 COOP. ROSSI				01/08/06				
01	1	B	BPD	NR	1,00	KG	41,50	01B00600016
30001 COOP. ROSSI				01/08/06				
01	1	B	BFR	NR	1,00	KG		01B00600017

Exit

Backward traceability information

Reser.nr /

Reserv.date

Job order nr /

Job order dt Slaughter date

Category Variant

Earring

Male nr. Female nr.

Organisation

Certificate

Seurop

Seurop class

Birthdate Born in

Colour

Ph

Body

DOP

IGP mark

Seurop cat.

Quality

Biologic

4. export of “data about the slaughter”

This module manages an archive (that can be exported to other information systems like for example Local Health Departments and so on) that allows the transmission of information about the slaughter to the specific authorities that require them in a specific format. Information required are

- Local Health Department code
- district code
- region code (Istat code)
- slaughterhouse code
- authorization number of the slaughterhouse
- name of the slaughterhouse
- address of the slaughterhouse
- province of the slaughterhouse's main offices
- municipality of the slaughterhouse's main offices
 - animal code (earring mark)
 - code of the last owner
 - code of the country of origin
 - weight of the beef's carcass
 - number of slaughter
 - date of slaughter
- date when information have been recorded
- date when information have been sent

From a technical point of view, the system manages a database in text format (ASCII) that can be accessed by other softwares (Excel, Word, Access) and other operational systems (Windows '95, Windows '98, Windows NT, Unix, AS 400,)

Exit Search Create file

Export beef data set

Filters

Factory COOP. AGRICOLA BIANCHI

Category BEEF

From nr To number

From slaug.dt To slaug.dt

Exported Export date

File name

Search results

Fact.	Categ.	Slaug.nr	Slaug. date	Reserv.nr	Reserv. dt	Variant	Breeding	Breeder	Earring
01	B	1	02/03/07	14	01/03/07	9	034PI023	10048	FR5812206736
01	B	2	02/03/07	14	01/03/07	9	034PI023	10048	FR7033559766
01	B	3	02/03/07	14	01/03/07	9	034PI023	10048	FR7121126630
01	B	5	02/03/07	14	01/03/07	9	034PI023	10048	FR7126956526
01	B	4	02/03/07	14	01/03/07	9	034PI023	10048	FR1825016549
01	B	6	02/03/07	14	01/03/07	9	034PI023	10048	FR8913806099
01	B	7	02/03/07	14	01/03/07	9	034PI023	10048	FR3615036044
01	B	8	02/03/07	14	01/03/07	9	034PI023	10048	FR7033579822
01	B	9	02/03/07	14	01/03/07	9	034PI023	10048	FR5851495255

Exit Search Create file

Export deliveries

Filters

From billing cust. To billing cust.

From point of sale To point of sale

From destination From destination

From deliv.note nr From deliv.note nr

From deliv.note dt From deliv.note dt

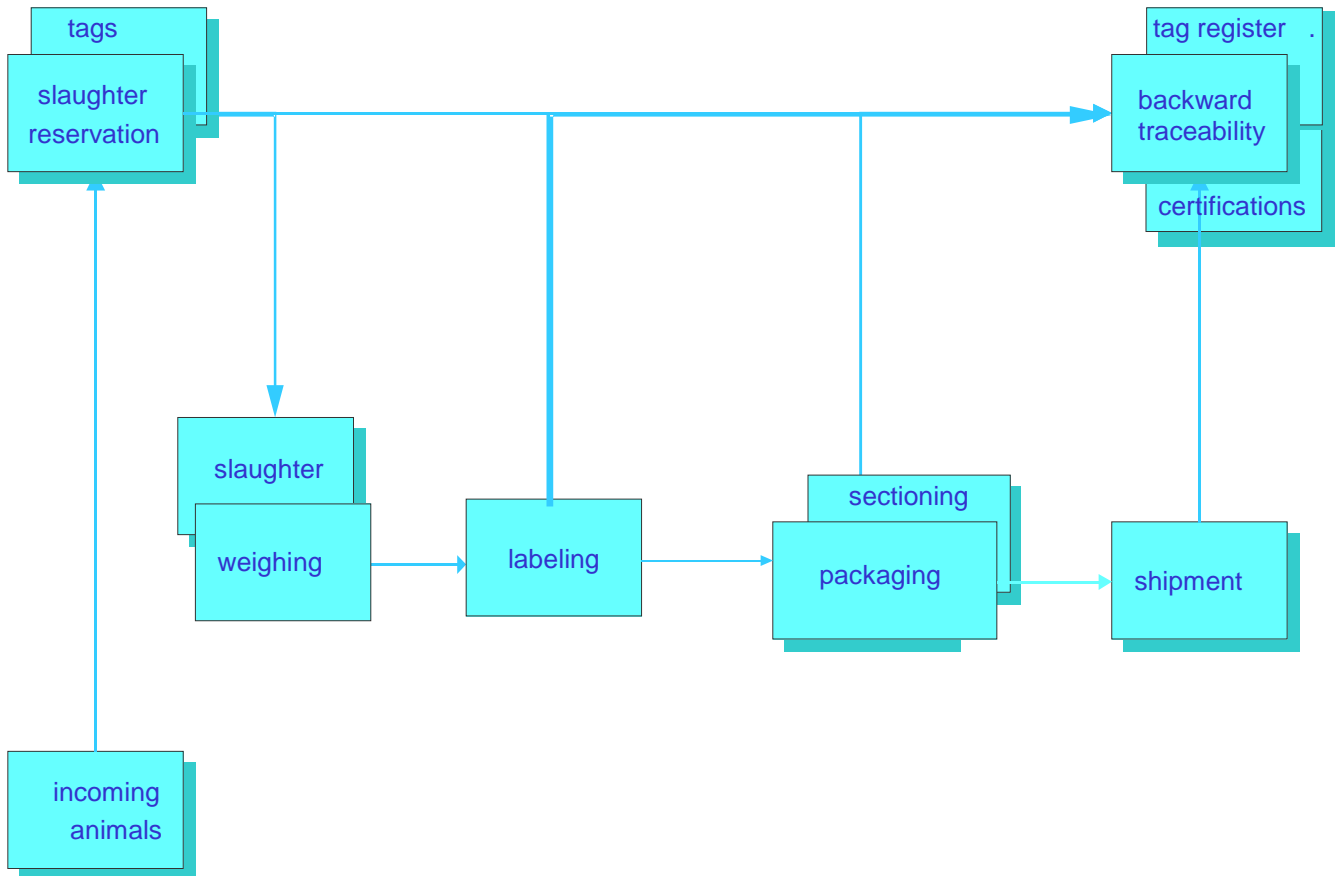
File name

Search results

Number	B	Slaughter dt	Customer	Corporate name
2	<input type="checkbox"/>	26/01/07	30001	ROSSI MARIO
3	<input type="checkbox"/>	08/03/07	30001	ROSSI MARIO
4	<input type="checkbox"/>	08/03/07	30001	ROSSI MARIO

5. operational flow-chart

The operational flow chart is the following



COMPANY WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
= **ISO 9001:2008** =

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Share Capital 50.000 € fully paid-up

6. some of our customers

6.1 macello comunale di Siena

Viale Toselli, 8/10

Siena, Italy

6.2. coop.Macellatori Perugia Soc.Coop.

Via Torricelli – zona ind. Molinaccio Ponte San Giovanni (PG), Italy

