

**“Fighting AntiMicrobial Resistance: smart weapons against smart microorganism”**

**Rome, 22-23 November 2014 - Ministry of Health**

# **The farm risk level and the consumption of veterinary medicines**

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# Agenda

- ✓ sustainability and farm risk level
- ✓ alternative to antimicrobial consumption
- ✓ Italian integrated approach and antimicrobials consumption study

# Agenda

- ✓ sustainability and farm risk level
- ✓ alternative to antimicrobial consumption
- ✓ strategy in Italy

# Economic sustainability and health management of farm

Sustainability is related to the health management of farm and requires an integrated approach in several aspects:

- ✓ Biosecurity
- ✓ Welfare
- ✓ Antimicrobials, vaccines
- ✓ Genetics
- ✓ Management
- ✓ Feed

# Integrated approach

## Objective :

Evaluate the characteristics, assign a level that you can categorize each farm according to the general characteristics, the health status, biosecurity, welfare and antimicrobial consumption



focus controls in farms with high risk level and simplify the slaughter of animals from farms with high production standards

# Integrated approach as we developed the system

Check list, eradication programs and score for:

- ✓ General section
- ✓ Health status
- ✓ Biosecurity
- ✓ Welfare
- ✓ Consumption of drugs

# Integrated approach health status

Official and no-official Free status :

- ✓ SVD
- ✓ Aujeszky Disease
- ✓ Trichinella
- ✓ PRRS
- ✓ APP
- ✓ M hyopneumoniae

# Integrated approach

## general section

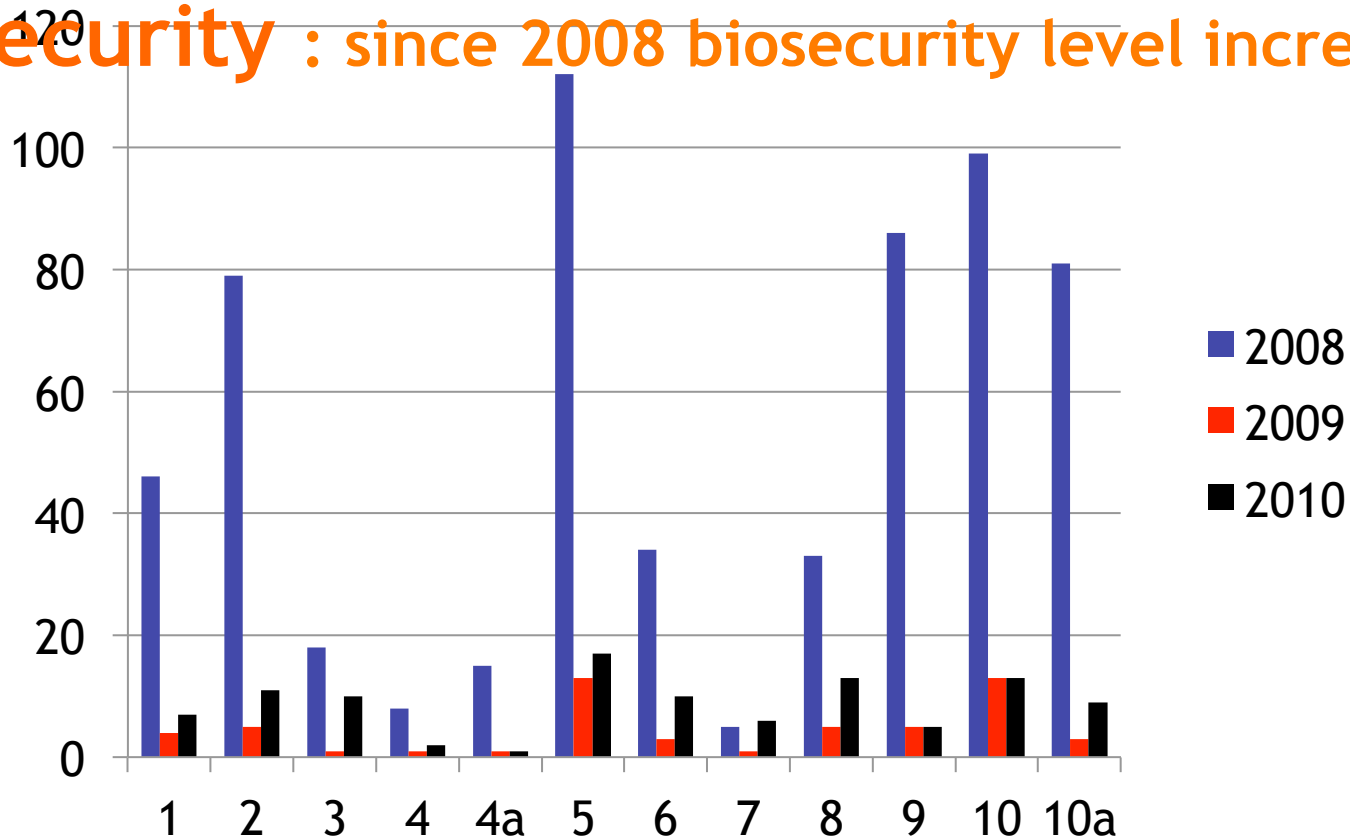
It will also be a part of 'Getting Started' which contains details of the general characteristics of the farm .

- ✓ general data : category
- ✓ area : n° farms / n° animals in 1 or 3 km
- ✓ movements
- ✓ production data



# Integrated approach

**Biosecurity** : since 2008 biosecurity level increased



**No-compliance number at the beginning of official and compulsory biosecurity programm in Lombardy Region**

Presence of gates and fences

2 no entrance signals

3 recording of visitors and vehicles access

4 dedicated clothing and footwear for the personnel

4a dedicated clothing and footwear for external personnel and visitors

5 dedicated area for cleaning and disinfection of the vehicles with properly working devices

6 presence of effective disinfectants for SVDv

7 updated recording in the farm register of the animal movements

8 adequate communication of animal movements for the recording in the national data base

9 external loading of discarded animals

10 refrigerated stocking area for dead animals

10a external loading of dead animals

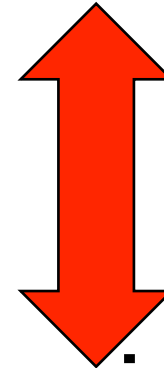
# Integrated approach

## Welfare

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In the Chek list are identified the parameters prescribed by the regulations and the ABMS ( welfare quality )

**1. prescribed by the regulations:  
no-compliance**



**2. Parameters ABM not provided:  
score**

# Integrated approach medication costs

- ✓ Automated and annual collect
  - ✓ Antibiotics are registered:
    - ✓ Orally-administered medication
    - ✓ Antibiotic and anti-inflammatory injections
    - ✓ vaccine
  - ✓ No specific category for antibiotics
  - ✓ € and not quantities

# Agenda

- ✓ sustainability and farm risk level
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# Alternative to antimicrobial consumption

Objectives : appropriate and proper use of antimicrobials in veterinary medicine

- ✓ diagnosis and AMR monitoring at farm level
- ✓ use of vaccine also in growing animals : oral , autogenous .....
- ✓ knowledge of efficacy and potential use of alternative products
- ✓ antimicrobial consumption evaluation

# Diagnosis and AMR monitoring at farm level

- ✓ serosurveillance in breeders and growing animals
- ✓ isolation and AMR test in order to use target therapy



# Knowledge of efficacy and potential use of alternative products

- ✓ many products are used :antioxidants , acidifying , probiotics ....
- ✓ availability of tests in vitro and in field trial
- ✓ is very important to

# Agenda

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- ✓ Italian integrated approach and antimicrobials consumption study



# Italian integrated approach study and antimicrobials consumption

- ✓ This study provides to the Italian public system and industry reliable baseline data
- ✓ It is an important complement to results based on sales data
- ✓ It is more accurate on global quantities used in farms It specifies usage pattern by weight group
- ✓ This tool is in compliance with EMA 's recommendations and ESVAC

# Italian integrated approach study and antimicrobials consumption

✓ Tool developed by :

## 1. Ministry of health

- The Ministry of Health covering the animal health and food safety
- Funded the study

## 2. Istituto Zooprofilattico Sperimentale Lombardia ed Emilia Romagna IZSLER Brescia

- The IZSLER is a public Institute for disease control, biosecurity program in livestock, scientific support for vets and farmers
- Developed this tool

# Italian integrated approach study and antimicrobials consumption

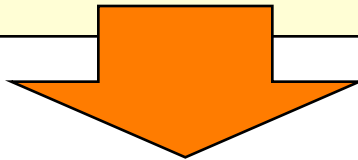
## Objectives

- ✓ To reliably measure the quantities of antibiotics used in a panel of farms representative of the Italian pig herd population
- ✓ To specify antibiotic usage pattern :  
Weight groups of animal treated (sows, suckling piglets, post-weaning pigs, fattening pigs)
- ✓ Reference year was 2013 ... and also now :  
2014

# **Integrated approach**

## **Web Based System**

**Web Based System is developed to collect and enter data from farm and slaughterhouse the programme can be used in mobile devices:**



**data are recorded in centralized database connected with external system**



**Data are analyzed at national, regional and local level , biosicurity , welfare and antimicrobials use individually and the correlations**



# WEB BASED SYSTEM (WBS) for farm risk level in Italy

Ministry of Health - IZSLER

- ✓ Web Based System is developed in C#sharp and HTML5
- ✓ the programme can be used in mobile devices (smartphone, tablet) at every platform (iOS, Android, windows)
- ✓ HTML5 can be use the system also off line and data can be recorded in central system database (MSSQL 2008R2) ( POSSIBLE ORACOL , MYSQL) when become on line

# WEB BASED SYSTEM (WBS) for farm risk level Ministry of Health - IZSLER

- ✓ WBS used also a business intelligence components (i DASHBOARD) to show an analysis of collected dates
- ✓ the system developed use open standard (HTML5) and open developed tools (c#sharp) spread language and commercial products.
- ✓ The system is able to communicate with over external systems ( BDN, Drug Tracciability , SIMSA .... ) by application cooperative

# WEB BASED SYSTEM (WBS) for farm risk level Ministry of Health - IZSLER

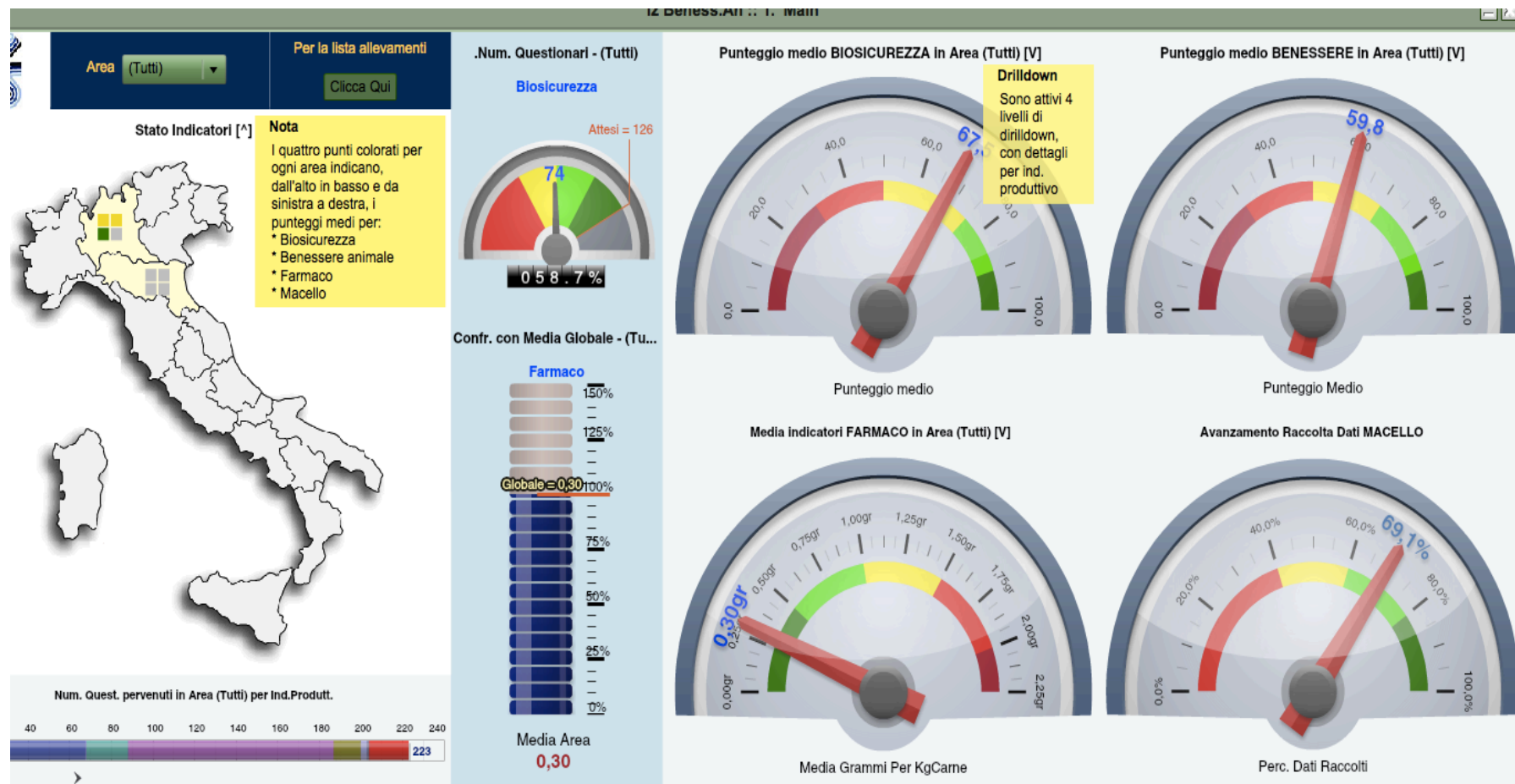
- ✓ When the system is analysing farm or area data can be communicate with all over official external system without duplicate data et use data in real time in order to have real situation (open buisness intelligence components)
- ✓ The analysis is able to go from macro ( national ) to specific and local data ( regional )

# WEB BASED SYSTEM (WBS) for farm risk level Ministry of Health - IZSLER

- ✓ Only parameters not available in other data base need to put in ( Es. antimicrobials consumption, welfare and biosecurity check list)
- ✓ the WBS is dynamic and when these data will be collected automatically they will be inside
- ✓ all data will be integrate to farm risk level analisys



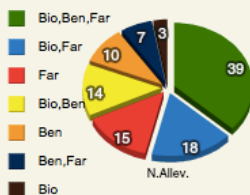
# WBS : National level



# WBS : Farm level

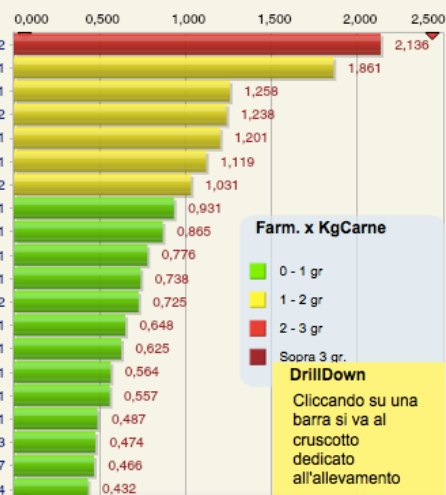


Stato Questionari (Tutti)

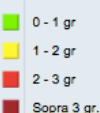


Ind.Prod. (Tutti)

gr. Farmaci x KgCarne - Ind.Prod. (Tutti) [D>]



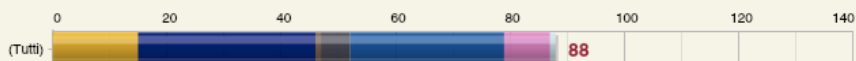
Farm. x KgCarne



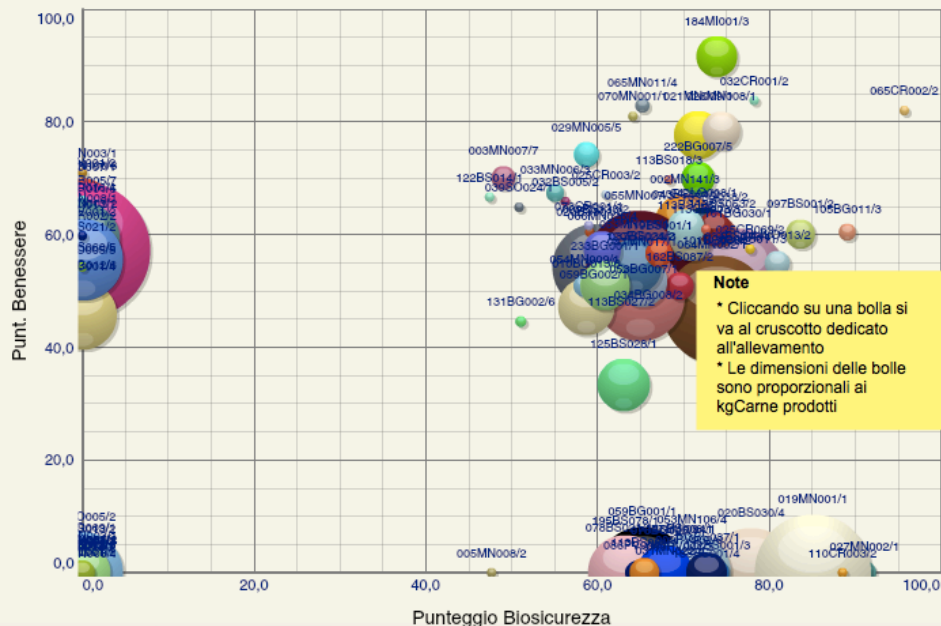
DrillDown

Cliccando su una barra si va al cruscotto dedicato all'allevamento

Distribuzione Allevamenti per Provincia - (Tutti)



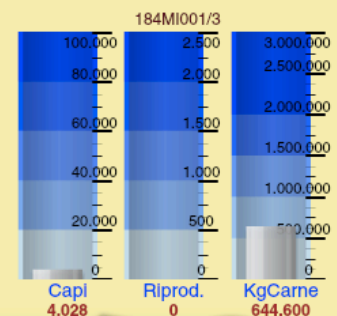
Confronto indicatori Biosic. - Benessere e kgCarne prodotta - Ind.Pr. (Tutti) [D>]



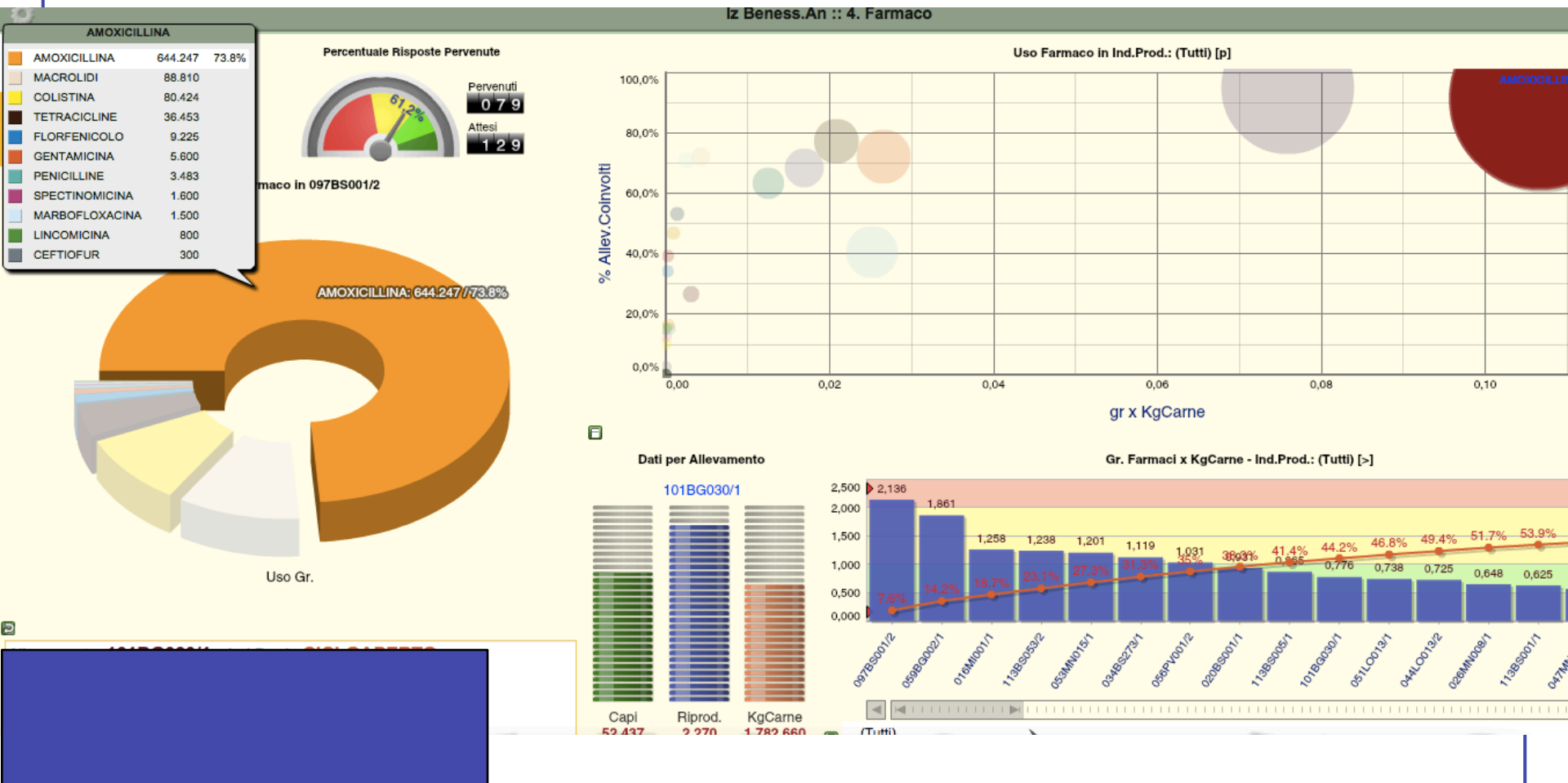
Sintesi Stato Allevamento



Dati sui Capi per Allevamento



# WBS : Antimicrobial consumption at farm level



# WBS : Slaughterhouse parameters at farm level

Farm Id	data	N model IV	Ante or Post mortem	lesions	N lesions	total number
001BS001/2	16/12/14	72	Post Mortem	alterazione colore muscoli	0	100
				artrite	0	
				ascessi	2	
				Cripto	0	
				derma	0	
				edema	0	
				Enterite	0	
				<b>Epatite</b>	<b>13</b>	
				Epatite/epatodistrofia	0	
				Imbratt.	2	
				ittero	0	
				Linfoaden.	0	
				M.R.	0	
				Mio	0	
				Nefrite	0	
				Nefrosi	0	
				NEOF	0	
				peri	0	
				Peritonite	0	
				Petecchie	0	
				<b>Pleuro polmonite</b>	<b>18</b>	
				<b>Polmonite</b>	<b>26</b>	
				Splenomeg.	0	
				Trauma	0	



**Thank you for  
listening !**