



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA  
DIPARTIMENTO DI SCIENZE MEDICHE VETERINARIE

## Dottorato di ricerca in Scienze Veterinarie

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Curriculum: Produzioni Animali e Sicurezza Alimentare

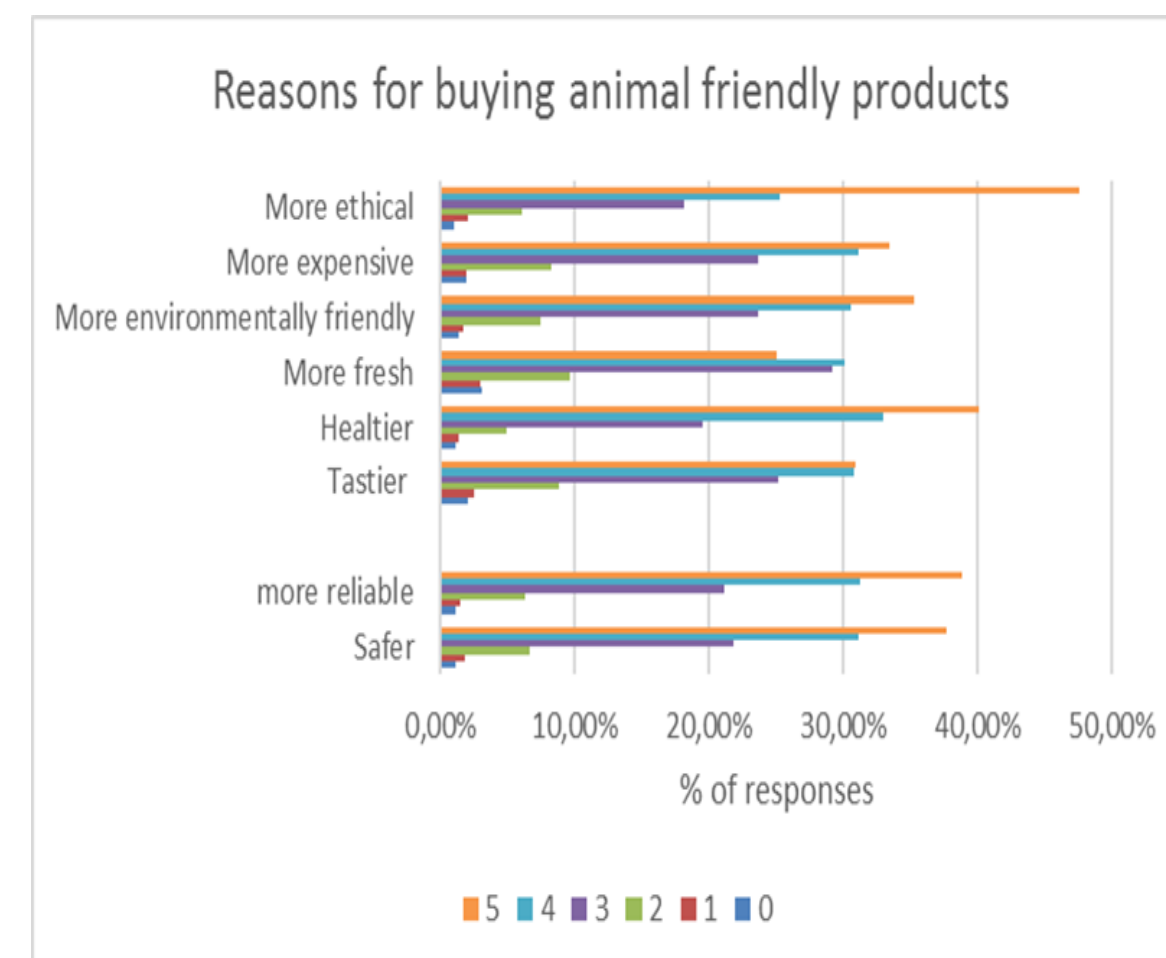
Ciclo: XXXIV



# «Animal welfare perception and assessment from different points of view: consumers, veterinarians, students and scientists»

## Towards the Abandonment of Surgical Castration in Pigs: How is Immunocastration Perceived by Italian Consumers?

Immunocastration of pigs represents an alternative method to surgical castration, being more respectful of animal welfare. However, this new technology may not be accepted by consumers due to their perception of possible risks tied to the use of the product, thus representing a concern for the production sector. The study aimed at verifying the attitude of Italian consumers towards immunocastration and to assess whether their perception can be affected by science-based information on advantages and disadvantages of immunocastration.



The level of information did not affect consumers' perception of immunocastration. Overall, immunocastration is perceived in a predominantly positive manner (54.5%), with a relatively low level of risk perception (34.2%), and a good willingness to pay more for meat deriving from immunocastrated pigs (+18.7%).

Table 3. One-way ANOVA results for consumers' willingness to consume, willingness to pay, and level of perception of risks for consumers' health tied to immunocastration (answers were expressed on a 0-to-100 scale) after receiving different levels and complexity of information.

Variables	Total	Information (Means)		ANOVA		
	Mean (n = 969)	Neutral (n = 319)	Complete +/- (n = 323)	Complete +/- (n = 327)	F-test	p-value
Willingness to consume	54.54	54.80	54.29	54.54	0.020	0.980
Willingness to pay	18.74	18.04	18.58	19.58	0.489	0.613
Level of risk perception	34.23	33.273	32.31	37.06	2.775	0.063

All 969 consumers were asked to respond first part:

319 consumers

Only technical (neutral) information on immunocastration was provided to the first group

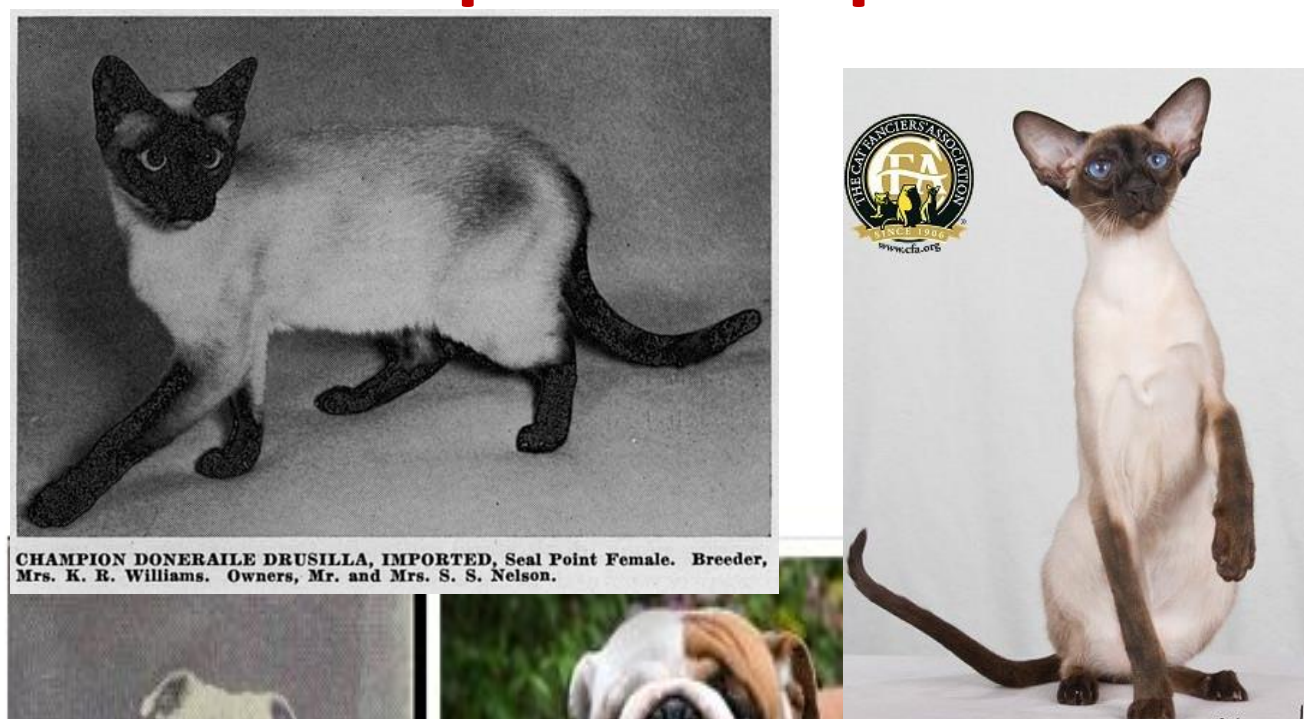
- The socio-demographic questions
- Consumer background (meat consumption habits, direct visual experience through visits of animal farms, attitude and perception towards the welfare of farmed animals);
- Consumer knowledge (on animal-friendly foods, on swine castration).

323+327 consumers

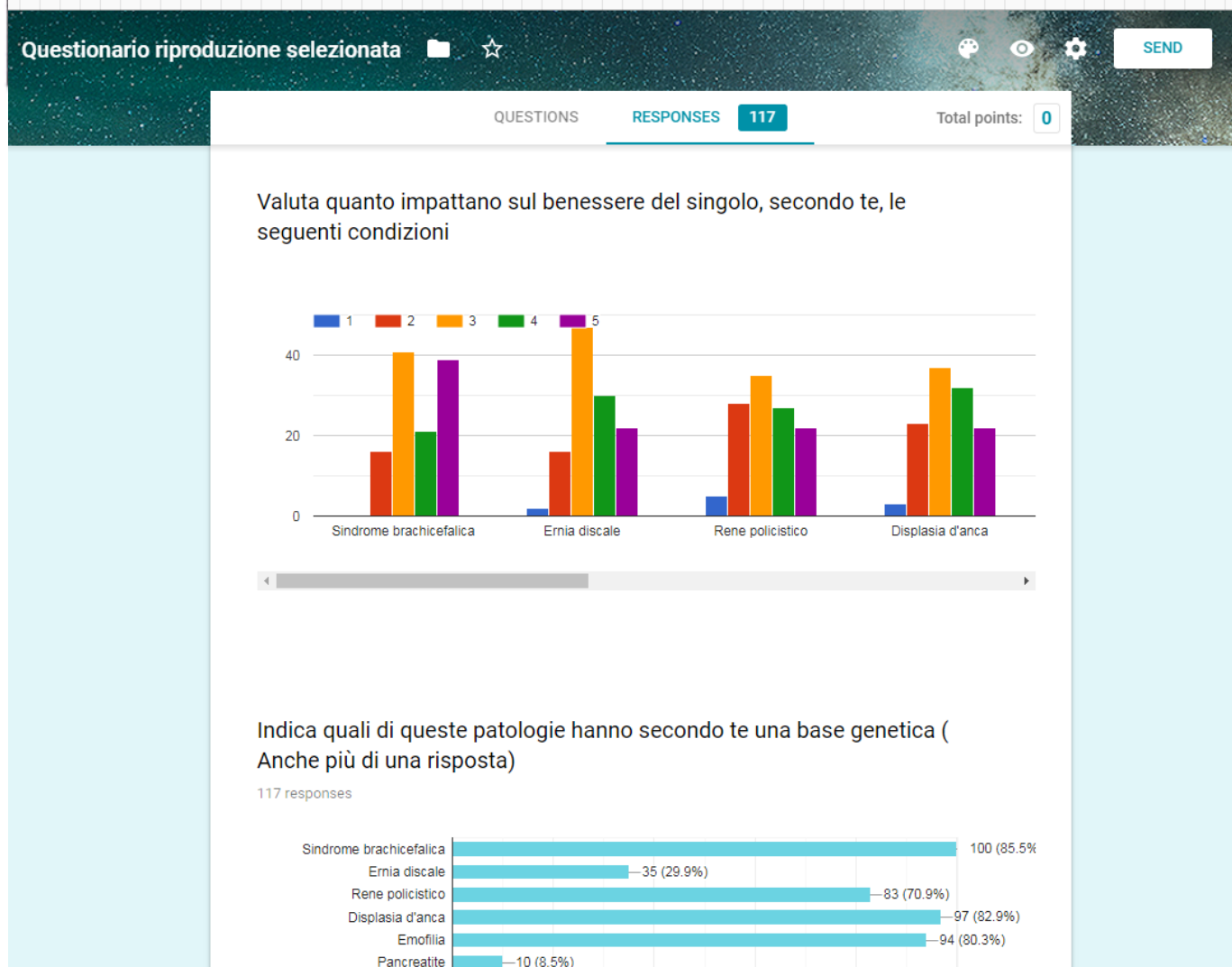
The second and the third group received information on the advantages (+) and disadvantages (-) of the technique, shown in reverse order (+/- and -/+, respectively).

## Work in progress...

### «Agony breeding and Welfare of purebred pets»



This project aims to assess perception and sensitivity of the future veterinary class on the issue of breed pathologies and selected reproduction of dogs and cats. The survey is carried out through an online questionnaire addressed to all students enrolled in the first and fifth year of Veterinary Medicine and consists of an analysis of their knowledge of the subject and their perception of this animal welfare issue.



### «Relationship between health and Animal Welfare in Cattle and Pigs breeds»

The main project that I will be dealing with over the three years of doctoral studies will focus on animal welfare assessments in livestock farms in Emilia Romagna, in order to correlate animal welfare data it with data concerning health treatments (therapeutic, prophylactic and metaphylactic) administered in the same farms. The aim of the project is to identify the presence of possible relationships between health and animal welfare parameters in livestock farms.



Results at principle level

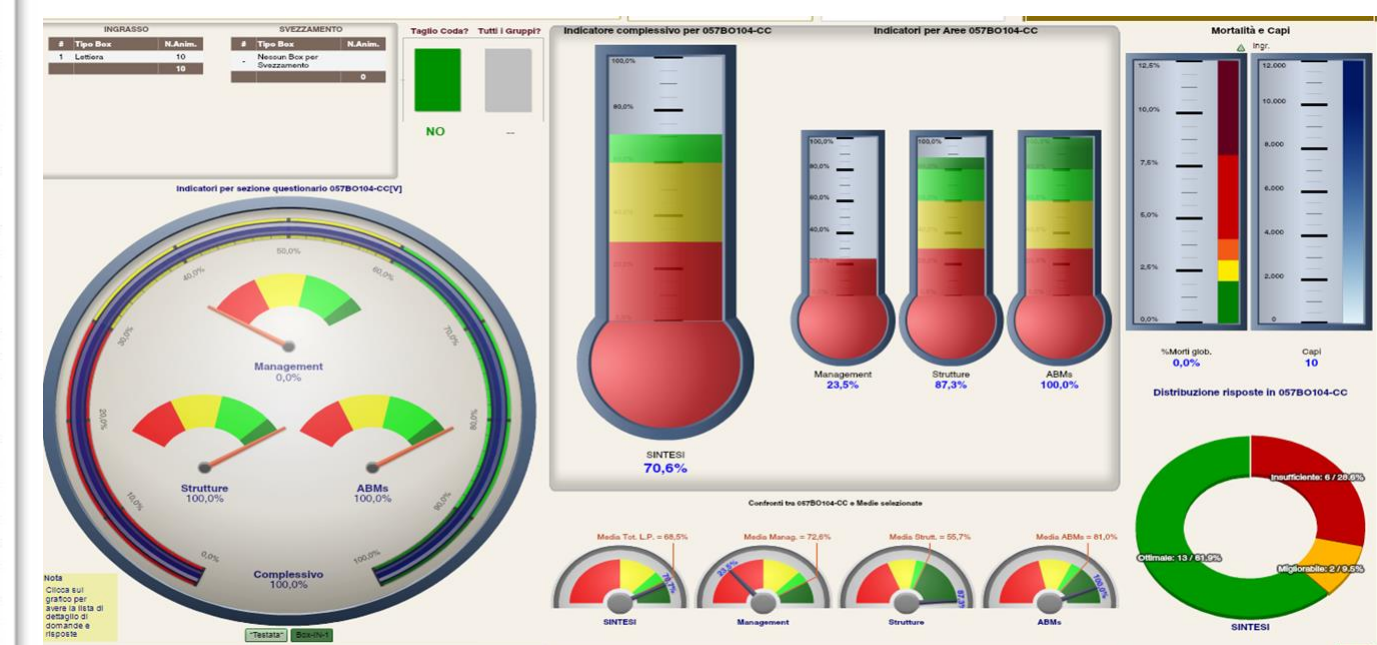
Welfare Quality® protocol

Welfare principle	Result
Good feeding	88.8
Good housing	86.3
Good health	53.0
Appropriate behaviour	28.8

Overall assessment

Overall welfare
Enhanced

Classy Farm protocol



So far, 10 farms were visited, 7 of dairy cows and 3 fattening pigs, data concerning the pharmacological treatments carried out in the calendar year from January 2018 to January 2019 were retrieved from the treatment register. The data relating to the farms inspections and those relating to the treatments will then be analyzed in order to highlight any correlations between the health status of the animals and the welfare indicators.

1) Di Pasquale J, Nannoni E, Sardi L, Rubini G, Salvatore R, Bartoli L, Adinolfi F, Martelli G. Towards the Abandonment of Surgical Castration in Pigs: How is Immunocastration Perceived by Italian Consumers? *Animals*. 2019; 9(5):198.  
2) Nannoni E, Martelli G, Rubini G, Sardi L (2019) Effects of increased space allowance on animal welfare, meat and ham quality of heavy pigs slaughtered at 160Kg. *PLoS ONE* 14(2): e0212417. <https://doi.org/10.1371/journal.pone.0212417>