

# FATTENING CHICKEN IN THE ECOLOGIC WAY FROM THE PERSPECTIVE OF FOOD SOVEREIGNTY

EDUARD CASTANYER

UNIVERSITAT AUTÒNOMA DE BARCELONA

## OBJECTIVES

Since few years ago, the price of the soybean grain increased up to 765€/tonne, doubling the price from 7 years ago. This is why our objective in this project is to find some alternative ingredients to replace the importance of the soybean as a protein source.

### THE CHANGES OF THE ECOLOGIC SECTOR

During the last fifteen years, the number of ecologic chicken farms increased a 500%. The reasons of that rise of farms, is because of the change of the consumer awareness, making ecologic chickens more important than a few years ago.

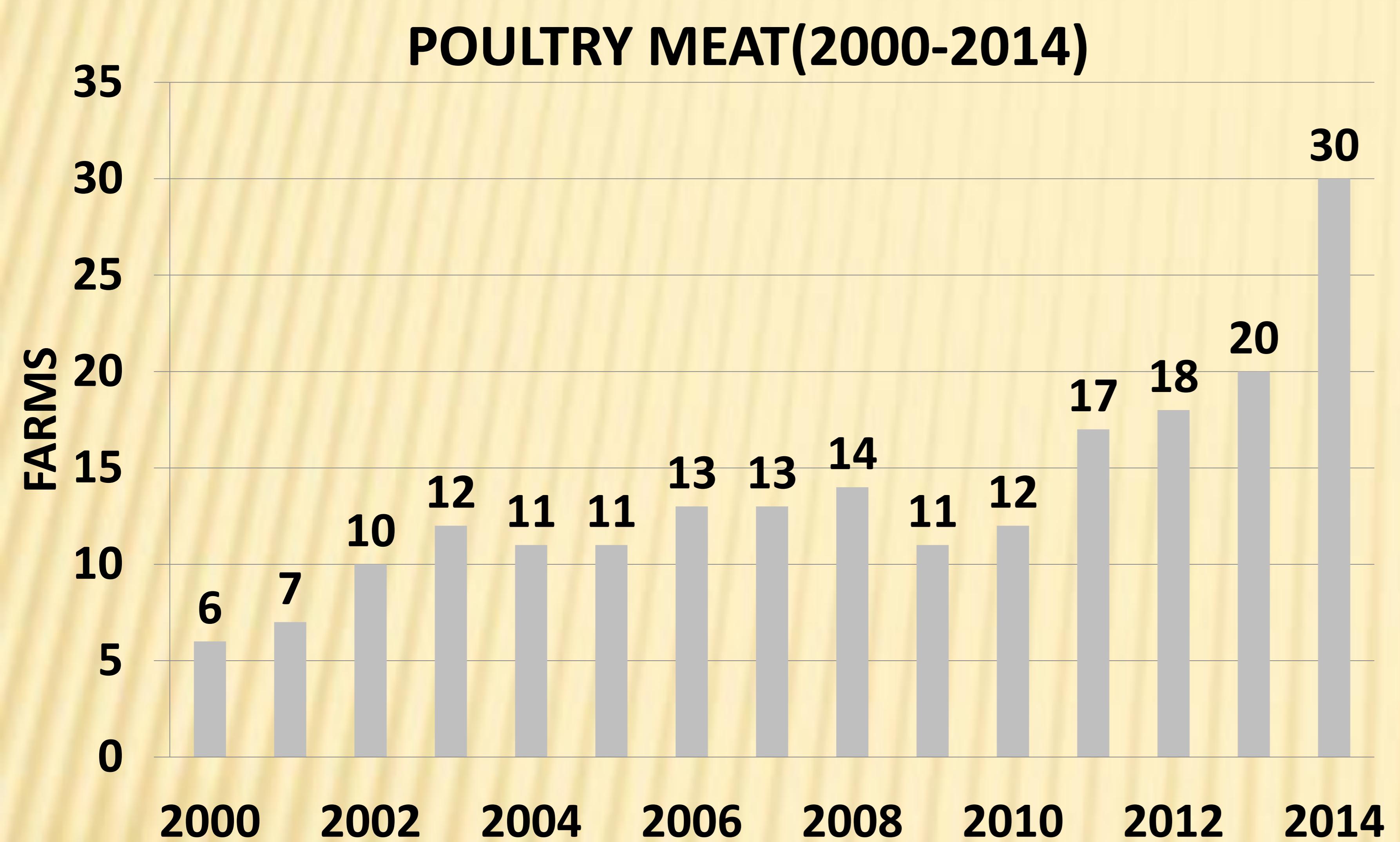
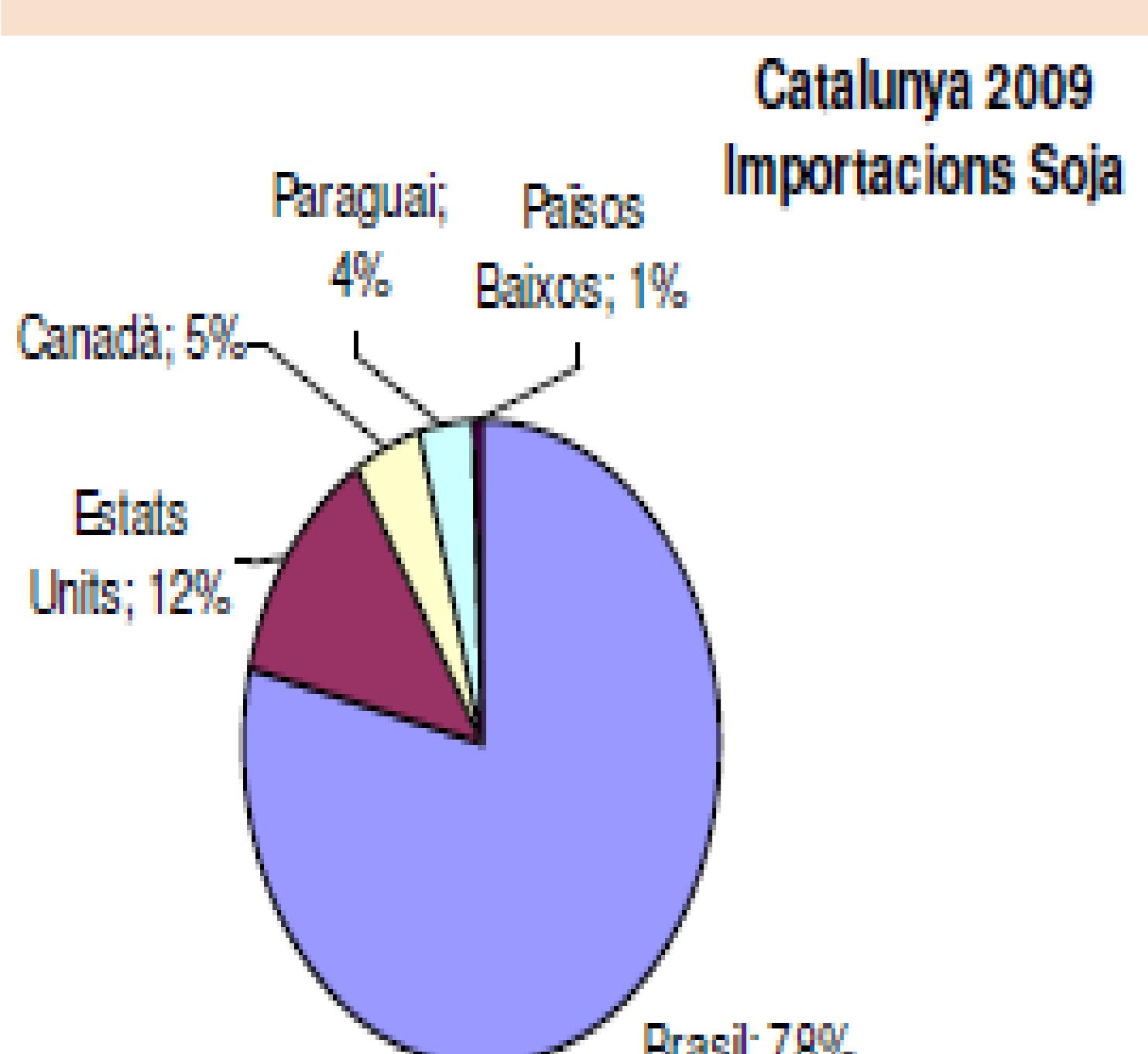


FIGURE NUM.1 THE CHANGES IN POULTRY ECOLOGIC FARMS IN CATALUNYA SINCE 2000-2014.

### THE IMPORTANCE OF SOYBEAN

If we look at the servings that chickens receive in the present, we can observe that the presence of soy is constant from birth to slaughter. This is due to the fact, that no ingredient can provide the 44% of protein intakes that soybean contains in his composition. It is for this reason, that most veterinary and formulators uses it although it is an ingredient which is imported up to 99% of cases.



As we can see in the graphic, the origins of the soybean that is used in Catalonia comes mainly from American countries where the conditions to cultivate the soy are better than those in Catalonia.

FIGURE NUM.2 THE ORIGINS OF CATALONIA SOYBEAN

### ALTERNATIVES

Despite the opinion of most veterinarians, there are alternatives to the massive use of soy as an ingredient. During the project, we visited the farm LA RIERA which produces his own feed, thanks to his 10 ha of arable land. It is for this reason that the absence of the conditions for growing soybeans, the farm decided to opt for alternative crops such as pea or moreus in the near future. These two ingredients, despite not having the same percentage of protein as soy, have also elevated % of protein.

Main analysis	Unit	Avg	SD	Min	Max	Nb
Dry matter	% as fed	86.5	1.2	82.0	90.7	22761
Crude protein	% DM	23.9	1.4	19.0	28.5	14479
Crude fibre	% DM	6.0	0.7	3.7	8.5	8139
NDF	% DM	14.2	3.1	9.1	22.0	798*
ADF	% DM	7.0	0.7	5.6	8.8	781*
Lignin	% DM	0.4	0.2	0.1	1.1	419
Ether extract	% DM	1.2	0.3	0.7	2.2	2978
Ash	% DM	3.5	0.4	2.7	4.9	4192
Starch (polarimetry)	% DM	51.3	2.0	43.4	57.5	9681
Total sugars	% DM	4.9	0.6	3.6	6.2	622
Gross energy	MJ/kg DM	18.3	0.1	18.2	18.8	153*

FIGURE NUM.3 COMPOSITION OF THE PEA GRAIN

Main analysis	Unit	Avg	SD	My	Max	Nb
Dry matter	% as fed	90.6	1.2	88.8	93.7	18
Crude protein	% DM	27.2	1.8	23.7	29.7	18
Crude fibre	% DM	10.1	1.5	8.8	11.6	4
NDF	% DM	24.2	6.6	15.0	38.7	19
ADF	% DM	13.5	2.3	9.8	17.6	18
Lignin	% DM	3.0	2.1	0.9	5.1	3
Ether extract	% DM	1.3	0.5	0.8	2.0	5
Ash	% DM	3.6	0.4	3.0	4.4	17
Starch (polarimetry)	% DM	24.1				1
Gross energy	MJ/kg DM	19.0				*

FIGURE NUM.4 COMPOSITION OF THE MOREUS GRAIN

### CONCLUSIONS

As we can observed, no ingredient can compete to the % of protein of soy (44%), although they are possible alternatives that consider food sovereignty like pea or moreus grain. However, remark the fact that these alternative ingredients will not have the same results as soybean but they will highlight for a sustainable production and free imports of foreign ingredients.