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**Evolution of Milk Sheep Production System in Castelo Branco  
Region: Biodiversity vs. Productivity**

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The last Statistical Agricultural report from 1999, refers an total population of  $2,930 \times 10^3$  sheep and  $537 \times 10^3$  goats, from which  $2,499 \times 10^3$  and  $456 \times 10^3$  are sheep and goats adult females respectively Fig 2. In terms of their distribution through the national territory, 77,1% of sheep are in the Interior, including all the Alentejo region and only 22,6% are in the Littoral. As for goats their distribution is more uniform with 57,1% and 39,8% in the interior and Littoral respectively. The differential to 100% of this percentages refers to the animals located in the Autonomous regions of Azores and Madeira.

### 1.1- Portuguese indigenous sheep and goat breeds

Sheep and goat breeding is considered to be one of the most valid alternative for the use of poor soils, characteristics of the large Less Favoured Areas in Portugal and depends largely on subsidies regardless of stocking rate or production level.

In Portugal, there are 2,400,000 adult female sheep, of which 50 % are milked for cheese production, with a total production of 96,000,000 litre of milk. Milk for the majority of the breeds represents an high percentage of the total income of farming activities. Even in those breeds in which milk production is low, still represents a complement of the total income.

Contribution to the gross income of sheep products depending on farm orientation as can be seen in Table--

(% Gross income)	FARM ORIENTATION		
	Mature Cheese	Fresh Cheese	Milk
- Milk Cheese	52,6	33,2	26,3
- Meat	15,9	28,7	30,7
- Wool	2,9	2,5	2,1
Subsidies	28,8	34,4	40,9

In most of Central areas of Portugal where the indigenous milk breeds are based, producers tend to replace indigenous breeds for more productive animals (exotic breeds like Assaf, Awassi and Lacaune) mainly in the lowlands. The introduction of this more productive animals is changing the system towards more intensive production with an high level of specialisation and with better economic results, but leading to a new problem based on land use (grazed areas that are not anymore used).

The PDO cheese and the technological developments in dairy processing associated with the other types of cheeses, which reduce costs along with increasing volume, are propelling the trend towards fewer and larger dairy processing plants and a more concentrated cheese processing regional sector (Fragata *et al*, 1998).

### The Circuits of commercialisations of small ruminants products

Sheep and goat milk is used to make cheese:

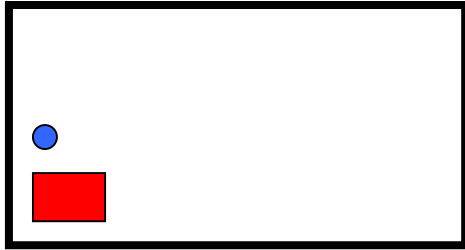
- acquired through intermediates
- used by farming processing
- acquired by farmers associations

Sheep and goat Meat (Seasonal Production - Easter, Christmas and Summer):

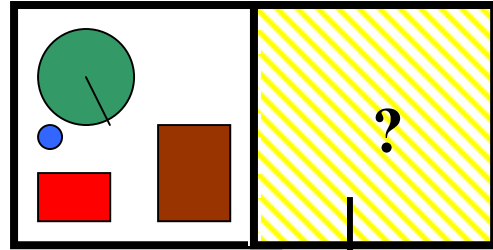
- acquired through intermediates
- sold directly to the slaughterhouses
- acquired by farmers associations

Sheep Wool:

- acquired through intermediates
- sold by farmers associations through auctions (Wool Classified and Graded)



Sheep Farm in 1988



Sheep Farm in 2001

Abandoned area (FUTURE ?)

**(-) Negative**

- Mobilização
- Fast growth Forest tree
- Crescimento descontrolado dos matos

- ↓ Animal and Vegetal Biodiversity (Medium Term)
- ↑ Fires
- With or without fires (deep changes in landscape)

- Estudo das possibilidades
- Identificação de soluções caso By caso.
- Support (technical and financially) to the environmental protection

**(+) Positive**

- If mobilizações reduzidas
- If crescimento mato controlado
- If Quercus spp. trees is used
- If grazing sheep is used in extensive systems (MBB).

- Can lead to:
- ↑ Animal biodiversity
  - ↓ Fires
  - Landscape maintenance

- And:
- ↑ Tourism
  - Region "Historique villages of Portugal"
  - Roman and visigotic archeology

The appearance of intensive milk sheep production systems has led to the improvement of working and life conditions to whom has is activity in Agriculture.

#### IMPROVEMENT OF WORKING CONDITIONS

- Milking on foot (Standing)
- Recinto coberto

Melhores condições de higiene no trabalho

Criação de Alojamentos condignos

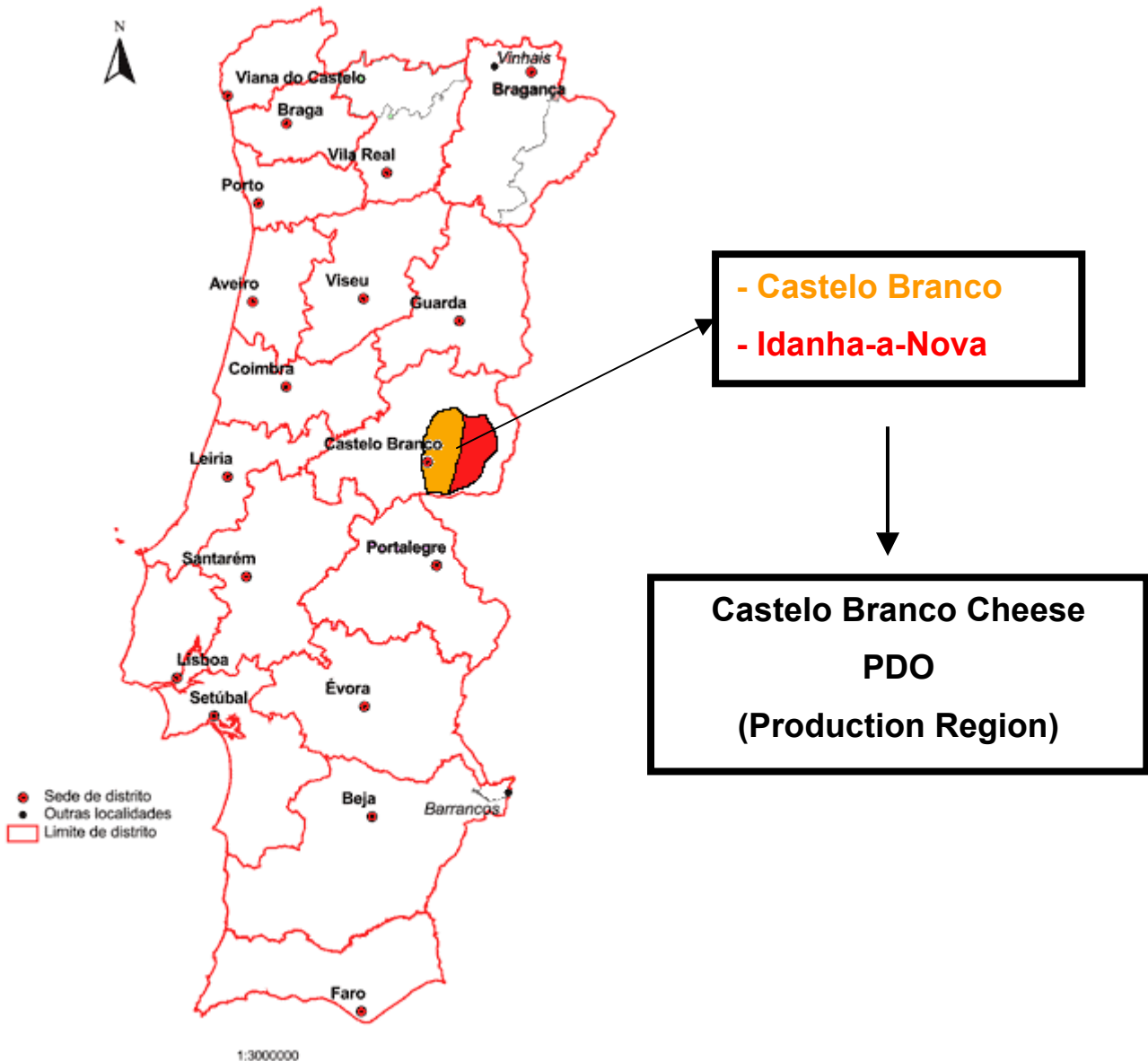
Apareceram pessoas para trabalhar com maior formação

Formação que possibilita a utilização multifuncional desta mão de obra

In general :

new jobs in LFAs (in new processing plants and in farms)

# PORTUGAL



- **Traditional Region of Sheep Cheese Production.**
- **Until 40's still transhumance between Serra da Estrela Region and Castelo Branco / Idanha-a-Nova Region.**
- **From November till March Serra da Estrela Sheep Breed stayed in Idanha-a-Nova /Castelo Branco Region (producing the Serra da Estrela Cheese).**