

# RABBIT PRODUCTION IN BULGARIA\*\*

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**Abstract:** The aim of the study was to present the situation of rabbit production in Bulgaria. As a whole the rabbit production in Bulgaria is in extensive stage. To change it as intensive or semi intensive it need to improve selection and feeding systems, to concentrate the farm, and to build new more modern farms with control systems of microclimatic parameters and which covered veterinarian requirements.

**Key words:** rabbit production, breeding, reproductive system

## Introduction

Rabbit breeding is a small sector in Bulgarian animal production with big potential, because of: the good conditions for producing big quantity of rabbit meat in the country, absence of European limiting quotas and expanding of market needs of rabbit meat.

Rabbit numbers in Bulgaria, at the beginning of the transmission (1989 - 2000), were between 335 304 (for 1991) to 667 078 (for 1996). In 2001 it was obtained the biggest reduction of raced rabbit number (233 480), because of next reason: high level of forage price increasing, low augmentation tendency of rabbit meat price and absence of export possibilities of rabbits or rabbit meat. Since 2002 the rabbit number fluctuated, but the quantity of obtained rabbit meat in meat processing enterprises at 2003 was lower (47.4 t) with 25.6% than at 2002. In 2005 the number of farm raised rabbits had diminished with 46.22%, in the same time the rabbit does number had decreased with 19, 29%. The bigger farms are located in Central North and Central South regions of Bulgaria, in which part are situated slaughterhouses. The rabbits are 99.4% in the private sector and only 0.6 in government structure.

**Table 1. Farm number and does concentration in 2003 and 2005 years**  
**Tabela 1. Broj farmi i koncentracija zečica u 2003 i 2005 godini**

<i>Class/ Klasa</i>	<i>2003 Farm number/ Broj farmi</i>	<i>2003 Rabbit number/ Broj zečeva</i>	<i>2005 Farm number/ Broj farmi</i>	<i>2005 Rabbit number/ Broj zečeva</i>	<i>2005/2003 Farm number/ Farme %</i>	<i>2005/2003 Rabbit number/ Zečevi %</i>
<b>Total rabbits/ Ukupno zečeva</b>	69457	651175	37354	525563	53.8	80.7
<b>Does Total/ Ukupno zečica</b>	62866	220248	33810	177771	53.8	80.7
<b>Farms with/ Farme sa: 1-10 does/ zečica</b>	60538	171210	30907	115118	51.0	67.2
<b>11-50 does/zečica</b>	2261	42028	2783	53068	123.0	126.0
<b>51-100 does/zečica</b>	53	4076	116	8166	218.8	200.3
<b>101-150 does/zečica</b>	14	632	-	-	-	-
<b>Over 151 does/Više od 151 zečice</b>	5	2934	4	1420	80.0	48.3

The amount of Bulgarian rabbit population can not cover the recent country consumption needs of meat in one side, but in the other, there are very good precondition for expanding this sector to be able to produce enough quantity rabbit meat for export to other countries. Now rabbit meat production decreases (tabl.2) because of the low price of live rabbits, small number of slaughterhouses and more complicated veterinarian requirement.

**Table 2. Meat production 2002-2005**  
**Tabela 2. Proizvodnja mesa 2002-2005**

Class/Klasa		2002	2003	2004	2005
Slaughtered rabbits/ Zaklani zečevi	<b>thousand tones/hiljade tona</b>	15.5	8.3	38.4	19.8
Rab meat meso – live weight /živa masa	<b>Tones/tona</b>	45.9	21.2	99.8	58.0
live weight per rabbits/ Živa masa po zečevima	<b>kg</b>	2.9	2.6	2.6	2.9
Total meat/Ukupno mesa	<b>Tones/tona</b>	28.4	13.3	63.6	37.1
Dressing/Randman	<b>%</b>	62.0	67.0	64.0	64.0
Slaughtered weight per rabbit/Težina zaklanog zeca	<b>kg</b>	1.8	1.6	1.7	1.9
Liver production/Pr oizvodnja jetre	<b>tones</b>			3.6	1.6
Slaughterhouses/Klanice	<b>n</b>	5	5	5	4

Rabbit production in Bulgaria can be expanded and changed as semi intensive or intensive if some activity will be improved - genetic and selection, reproductive system, feeding system, housing condition, prophylactics and technology as a whole.

**Genetic and selection.** At 2005 in Bulgaria was raced 177 771 rabbit does in 60 538 farms (table. 1), but only 2 087 of them (in 18 farms) were controlled. White New Zealand and Californian breed represent the most part of rabbit population. In country also are raced White giant, Flemish giant, Chinchilla, new Bulgarian breed group – Veselina and hybrid ZIKA.

With aim to improve the hereditary traits of Bulgarian rabbit population, 1500 animals (White New Zealand and Californian breed) were imported from Italy and other 200 parent forms ZIKA were imported from Germany at 2002. Utilization of unestimated does and bucks, uncontrolled inbreeding and sporadic crosses (often with negative heterosis effect (*Prayaga, Eady, 2002; Rommers et al, 2002; Reddy et al., 2003*) cause low productive

traits of the big part of raced population – late maturation, low fertility and prolificacy, low live weight, bad conversion rate of the feed, unsatisfied meat traits. Several non-governmental organizations (Bulgarian Rabbit Breeding Association, National Society of Rabbit Breeders, Bulgarian board of bird and rabbit meat processing) were established for improvement of population gene fund.

**Reproductive system.** Most farms used natural mating; only several farms practice artificial insemination with fresh semen (*Grigorov, Georgiev, 2002*). The does were mated for the first time earliest at age 150-days, because of the low feeding level of young animals. This is the reason some authors to suggest to inseminate for the first time young does not at fix age, but at fix live weight – 75-80% of the live weight of old does (*Leas et al., 1986; Roomers et al., 2002*). In most of Bulgarian rabbit farm there are not suitable feeding program for young does, they can not to realize their growth potential. In good condition of feeding it can be between 100-120 days of age for White New Zealand and Californian rabbits.

**Housing systems.** Different housing systems were used in Bulgaria – indoor, outdoor, or mix. Most farms have different rooms for the different rabbit categories. The basic problem there is uncontrolled microclimatic parameters.

**Feeding system.** The most of the Bulgarian rabbit farms use feeding with all ration pellets, but because of the varying quality of this forage, some of the farmers add Lucerne hay to the ration.

**Prophylactic system.** The basic health problems depend of stage of rabbit development and growth. One of the problem periods for rabbits is during the two-week period after weaning known as a period with high mortality rate of young rabbits (*Nicodemus et al., 2002*). This depend also and of the diet type – high energy diet with low fiber level augment the percentage of mortality and high fiber ration with low energy level reduce mortality rate, but slow down growing in this important age period.

Next problematic stage – this is the period of the first lactation, which can influence very negatively reproductive traits. Young does are very sensitive of body energy deficit and this resulted in high percentage of replacement. The does which are fed with low energy ration with high fiber level have better body composition which decreased their energy deficit in first lactation (*Xiccato, et al., 1999*).

There are not the strict prophylactic systems, but more of the farms apply vaccination against hemorrhagic diseases one or two time of the year, coccidiostatics in forage or in water, desinsection and disinfection every month.

**Legislation base.** For each part of Bulgarian rabbit production there are the suitable legislation base – for feed producing, for rabbit cares, for does and bucks producing, for veterinarian manipulations, for transportation and meat processing.

## Conclusions

As a whole it can say that the Bulgarian rabbit production is in extensive stage, but the legislation base is fully synchronized with requirement of European Union. To change it as intensive or semi intensive it need to improve selection and feeding systems, to concentrate the farm, and to build new more modern farms with control systems of microclimatic parameters and which covered veterinarian requirements.

## Proizvodnja zečeva u Bugarskoj

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### Rezime

Cilj ovog rada je da se predstavi stanje u proizvodnji zečeva u Bugarskoj. Generalno, proizvodnja zečeva u Bugarskoj je na ekstenzivnom nivou. Da bi se promenila u intenzivnu ili polu-intenzivnu proizvodnju neophodno je poboljšanje u selekciji i sistemima ishrane, izgradnja farmi i novih savremenih farmi sa sistemima za kontrolu mikroklimatskih parametara i koji su u skladu sa veterinarskim odredbama.

**Ključne reči:** proizvodnja zečeva, odgoj, reproduktivni system

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