

## Carcass weight, condition and reproduction of wild boars harvested in north-western Poland

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### Abstract

During the period from October 2008 till January 2009, in the carcass material assembled from the collective hunting of wild boars (n=165), the age structure of population, body masses and conditions of wild boars were assessed. Among the harvested wild boars, piglets constituted 35.8%, and subadults 53.9%, whereas adults only 10.3%. In females of all age classes *corpora lutea* and embryos were found. The average number of *corpora lutea* was 6.3 per female. The average litter size was 5.9 embryos per female. When divided in age classes, in older wild boars the average was 9.0 embryos per female and only 2.0 embryos in the yearling class. Of the embryos whose sex could be determined (n=19), 63.2% were females and 36.8% males.

Keywords: age classes, litter size, pregnancy, wild boar

### Introduction

In recent years, increases in wild boar population numbers were observed in Poland as well as all over Europe (Keuling et al., 2008). At the same time the level of damage inflicted by this species increased significantly and compensation payments made to farmers in the 2009/2010 season amounted to 12.4 million €. Wild boars are increasingly often entering towns and cities and are frequently involved in road accidents. One of the reasons that the rapid growth in numbers of wild boars has gone unnoticed is the lack of reliable data on the population net increase, which should provide the basis for setting management plans for harvesting this species. This index can be calculated when the reproduction rate of a given population is known. Therefore, the objective of this study was to investigate the condition, age, and reproduction rate in the wild boar population occurring in north-eastern Poland, where intensive cultivation is pursued on its rich brown soils.

### Materials and methods

The material for this study was collected during collective hunting, organized in the period between October 2008 and January 2009 in the Mysliborz and Gryfino forest districts. In the course of each hunt the kidneys with surrounding fat and the lower jaw were dissected from all harvested males. The reproductive tracts, the kidneys with fat and lower jaws were collected from females. The uteri were assessed in a laboratory (i.e. the number of *corpora lutea* and embryos were counted) and the kidneys were weighed. The age of harvested wild boars was determined on the basis of tooth eruption patterns, which allowed determining the farrowing time pattern. In total 165 wild boars were examined for this study.

### Results

Piglets comprised 35.8% of harvested wild boars. The proportion of animals in the yearling class was 53.9%, and only 10.3% of the total number of animals harvested were in the older age class. Among the piglets bagged, 55.9% were male and 44.1% female. The great majority of harvested yearlings were females (76.4% vs. 23.6% of males). A similar trend was noted in older wild boars, where the predominance of females was also remarkable (64.7% vs. 35.3% of males).

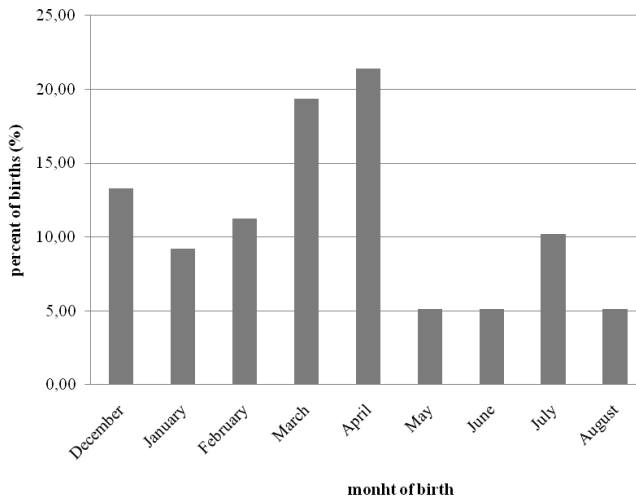
*Corpora lutea* and embryos were found in females of all age classes. Most of these, however, occurred in the yearling class (Table 1). The average number of *corpora lutea* per female was 6.3. The smallest average number of *corpora lutea*, i.e. 5.5 per female was found among the piglet age-class. The highest number, i.e. as many as 7.5 *corpora lutea*, was found in older wild boar females. The average litter size was 5.9 per female. Depending on the age class, an average of 9.0 embryos per female was found among

older wild boars, whereas in the yearling class it was only 2.0 embryos per female. Of the embryos whose sex could be determined (n=19), 63.2% were females and 36.8% males. The average body mass of wild boars harvested indicate clearly, that, except in the piglet class, males are heavier than females. The calculated kidney fat index (KFI) in males was lower than in females.

**Tab. 1** Body condition and reproduction of wild boar in north-western Poland

Age classes	Males				Females					
	Sample size	Carcass weight (kg) ±SE	KFI	Sample size	Carcass weight (kg) ±SE	KFI	Females with corpora lutea	Pregnant	Percent of fertilized (%)	Average litter size
Piglets	33	23.5± 1.8	1.68	26	25.1± 1.3	1.69	2	1	3.8	2.0
Subadults	21	64.2± 3.1	1.81	68	56.8± 1.1	2.14	18	12	17.6	6.2
Adults	6	106.7 ± 5.6	1.83	11	76.2± 2.1	2.20	4	1	9.1	9.0

The farrowing season in the study area lasted from December until August (9 months), with clear peaks in the months of March, April, July and December (Figure 1).



**Fig. 1** Fertility period of wild boar in north-western Poland

## Discussion

The area from which the wild boar carcasses were obtained for this study consists of fertile soils used to cultivate high-protein crops. Moreover, the oak-beech forests of the Myslibórz and Gryfino forest districts provide a rich food supply to wild boars. This availability of high-protein food is likely to result in earlier maturity in the boars from the youngest age class as well as resulting in the extension of the farrowing season to cover a larger part of the year (9 months) (Durio et al., 1995). The reproductive pattern found in this study coincides with that of other wild boar populations in Western Europe (Gaillard and Jullien, 1993, Gethöffer et al., 2007). Therefore, it is essential to determine the

reproductive pattern of wild boar females and to carry out a proper population census, which will allow devising a suitable strategy for harvesting wild boars.

### References

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