

## ROLE OF SHEEP ON SELECTED AGRITOURIST FARMS

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The aim of the present work was to determine the position and role of sheep: in agritourist farming; in the life of the tourist, and in the operation of the farm. This study is based on the operation of three agritourist farms where sheep are kept. The agritourist farm in the Wielkopolska Province keeps Polish Merino sheep for reproductive and commercial breeding, while the farm in the Pomorze Province breeds Pomeranian sheep. Yet another farm covered by this study is situated in Łódź Province and it specialises in Świniarka sheep breeding, covered by the Genetic Resource Protection Programme, and thus the production of this breed is aimed at its protection and popularisation. Merino and Pomeranian sheep are mainly used for meat production, while lambs are sold for meat export. Additionally, the reproductive herds provide breeding ewes for sale as pedigree material. The analysis of reproductive performance indices of the sheep shows that fertility on the farms under this study is similar to the mean values recorded for respective provinces, while the productivity and lamb rearing indices deviate from those values and are lower.

Keywords: sheep, agritourist farm

### 1. INTRODUCTION

Animals make the tourist's stay on agritourist farms more attractive and interesting; they are like a magnet attracting families with children, as well as adult city-dwellers yearning for closer contact with nature, and thus with animals. The animals which are most frequently kept on small farms are goats, sheep, ponies, donkeys and ornamental poultry. Sheep demonstrate a versatile functionality. On the one hand, they provide precious products; wool, skins, meat and milk, and, on the other hand, they fertilize the soil by providing valuable manure. And so sheep enhance the attractiveness of the surroundings, by beautifying the landscape and thus attracting tourists [9]. While selecting an adequate sheep breed one should consider breeds that use feed efficiently, are not fussy eaters and are capable of surviving under sometimes scarce vegetation conditions, are resistant to adverse weather conditions and not susceptible to diseases associated with grazing, e.g. joint-ill or vermination [2].

The aim of this work was to determine the position and role of sheep of various breeds in agritourist farming; in the life of the tourist and in the operation of the farm.

## 2. MATERIAL AND METHODS

The research was carried out on three agritourist farms where, besides typical agritourism activity, sheep were kept.

1. Koło (the Wielkopolska Province) – Polish Merino sheep, the reproductive herd of 60 mothers and the commercial herd – 30.
2. Tuchomko (the Pomorze Province) – Pomeranian sheep with 80 mothers in the reproductive herd and 80 – in the commercial herd.
3. Krzetów (the Łódź Province) – 100 Świniarka sheep, covered by the Genetic Resource Protection Scheme.

The data for the study was mainly collected from a survey among farm owners, as well as local government websites and newsletters.

Merino sheep (Koło) and Pomeranian sheep (Tuchomko) were kept in closed buildings with a functional loft, while the enclosure used for Świniarka sheep (Krzetów) was semi-open with the roof. There were floor litter systems on each of the farms; Tuchomko and Krzetów semi-deep (manure removed twice a year), while Koło had a deep litter system (manure removed once a year). Sheep feeding on all the farms was traditional and based mainly on self-produced feed. In summer the animals used pasture, while in winter – root crops and silage constituted basic feed. Irrespective of the season, the sheep were provided with hay, straw, and concentrated feed was added as well as mineral and vitamin preparations.

## 3. RESULTS AND DISCUSSION

Every year there is a growing interest in agritourism in Poland and the number of agritourist farms is growing dynamically. Animal farming is an important part of the tourist offer. While for some of the farms it is the main source of income, for others, due to the variety of animal species kept, it is the element enhancing the tourist attractiveness of the farm. The national survey of selected agritourist farms showed that sheep keeping on those farms is relatively popular. Mainly sheep occur in small flocks, consisting of several sheep of no major economic importance, playing a rather visual and often educational role through providing opportunities for direct contact with animals (e.g. feeding, milking, shearing sheep). Only a small number of agritourist farms are engaged in full scale sheep breeding and production, which generates profit being the main source of income.

Each of the farms in the present paper complies with the definition by Gotkiewicz et al. [3] as to what an agritourist farm should be. The sheep have good basic conditions provided for their welfare; nutrition, access to water, living space required as well as protection from stress, as per definition of 'welfare' quoted by several authors [4, 8, 12].

The agritourist farm in Koło breeds Polish Merino sheep for reproduction as well as commercial production, however, according to the owners, the main source of income, allowing for further farm development, comes from agritourism and fattener pig production. Sheep are kept there because of family tradition and they are mainly used for meat production. Lambs are mainly sold for slaughter (weight range 13–22 kg) mostly to Italy, France and Spain (Table 1). The owner's wife often serves tasty lamb

dishes to the tourists. Sheep meat (lamb, mutton), similarly to sheep milk, is considered to be, the so-called 'functional food' [11]. Sheep meat is delicate, lightly-digestible, well-assimilable, of high nutrition value and sensory properties [10]. Considering the chemical composition of sheep meat, it is better than beef or pork. Lamb meat, especially, from lambs of light weight is characterized by low energy value and high biological value of the protein [1, 7]. Sheep meat is a rich source of essential minerals – macroelements: Ca, P, Fe, Na, Cl, and mineral micronutrients: Zn, Cu, Al, and also vitamins, mainly from B and PP groups. Pro-health properties of sheep meat (anti-atherosclerotic, anti-carcinogenic, hypocholesterolemic and stimulation of the immune system) are mainly due to high contents of unsaturated acids, low cholesterol and the presence of conjugated linoleic acid CLA [1, 6, 12].

The main focus of Merino sheep breeding on the Koło farm is the sale of pedigree ewes. Wool, along with skins, are treated as by-production. Shearing is performed by the owners, therefore the costs are minimal. Sheep manure is used as an organic fertiliser applied directly to soil (Table 1).

Pomeranian sheep on the Tuchomko agritourist farm play a significant role.

They are reared for meat and wool as they are the main source of income. Slaughter lambs between 22 to 40 kg of body weight are allocated for export by Malbork RZHOiK, especially, to Italy, Germany, France and the Netherlands.

Wool is a significant source of income; it is used for making of ecological quilts, manufactured by the farmer and the farmer's machinery. Sheep wool is considered favourable to humans thanks to its very good hygroscopic, thermal and thermoregulatory properties, which makes sheep wool the best material for making quilts and clothes.

On the Tuchomko agritourist farm, a mature sheep can yield 3.5–5.0 kg and a lamb – between 2 and 3 kg of wool. Another Pomeranian sheep product on Tuchomko farm is the skin, sold solely to private buyers. Manure, removed twice a year (spring and autumn) is stored in a stack and subsequently spread in the fields in the springtime (Table 1).

The Krzetów farm relies mainly on agritourism and is involved in conservation breeding of Świniarka sheep, aimed at the preservation and popularisation of the breed. Funding obtained for that purpose, according to the owners, is sufficient for the upkeep of the herd. Świniarka, similarly to Wrzosówka, is the most recommended sheep breed for those agritourist farms which do not have any practical experience in sheep farming. It is a primitive sheep breed, of a multi-directional performance, but of low prolificacy, approximately 110% (Table 2). Świniarka adapts well to local environmental conditions, has rather low nutritional requirements, and is resistant to disease and adverse living conditions. Świniarka meat has a taste similar to game meat. The skins and the meat are usually sold to tourists. Manure is spread over the farm fields in the springtime (Table 1).

The analyses of reproductive performance indices of sheep of different breeds on the agritourist farms researched (Table 2) showed that Polish Merino fertility was 95%, Pomeranian sheep – 98% and Świniarka – 100%, whereas prolificacy was, respectively, 157%, 136% and 112%. Lamb rearing appeared to be lowest in the Pomeranian sheep herd (83%), and highest in Merino sheep at 95%. Fertility of sheep, kept on the agritourist farms evaluated, is similar to the means recorded for respective provinces, while the sheep prolificacy and lamb rearing indices deviate from the means and are lower [5]

Table 1. Characteristics of sheep production on the agritourist farms researched  
Tabela 1. Charakterystyka produkcji owczarskiej w badanych gospodarstwach agroturystycznych

Information Informacje	Farm – Gospodarstwo		
	Koło	Tuchomko	Krzetów
Sheep breed Rasa owiec	Polish Merino Merynos polski	Pomeranian sheep Owca pomorska	Świniarka Świniarka
	Reproductive and commercial breeding Hodowla zarodowa i towarowa	Reproductive and commercial breeding Hodowla zarodowa i towarowa	Conservation breeding Hodowla zachowawcza
Herd size Wielkość stada	90 ♀, 2 ♂	160 ♀, 6 ♂	100 ♀, 16 ♂
Direction of sheep production – Kierunek użytkowania owiec			
Meat Mięsy	<ul style="list-style-type: none"> <li>– export of slaughter lambs; weight range 13–22 kg (Italy, France, Spain)</li> <li>eksport jagniąt rzeźnych; przedział wagowy 13–22 kg (Włochy, Francja, Hiszpania)</li> <li>– own consumption – autokonsumpcja</li> </ul>	<ul style="list-style-type: none"> <li>– export of slaughter lambs; weight range 22–40 kg (Italy, France, Germany, the Netherlands)</li> <li>eksport jagniąt rzeźnych; przedział wagowy 22–40 kg (Włochy, Francja, Niemcy, Holandia)</li> <li>– own consumption – autokonsumpcja</li> </ul>	<ul style="list-style-type: none"> <li>– genetic resource protection (breed conservation)</li> <li>ochrona zasobów genetycznych (za-chowanie rasy)</li> <li>– lamb meat sales to tourists</li> <li>sprzedaż jagnięciny turystom</li> <li>– own consumption – autokonsumpcja</li> </ul>
Wool Woolny	<ul style="list-style-type: none"> <li>– wool production per sheep: 4–4.5 kg</li> <li>wydajność wełny od owcy: 4–4,5 kg</li> <li>– wool sales – sprzedaż wełny</li> </ul>	<ul style="list-style-type: none"> <li>– wool production: 3.5–5.0 kg</li> <li>wydajność wełny: 3,5–5,0 kg</li> <li>– wool sales – sprzedaż wełny</li> <li>– quilt production – produkcja kółder</li> </ul>	<ul style="list-style-type: none"> <li>– wool production 2.0–3.0 kg</li> <li>wydajność wełny 2,0–3,0 kg</li> <li>– occasional sales of wool</li> <li>sporadyczna sprzedaż wełny</li> </ul>
Skins Skóry	–	<ul style="list-style-type: none"> <li>– sales to individuals</li> <li>– sprzedaż osobom prywatnym</li> </ul>	<ul style="list-style-type: none"> <li>– for own needs</li> <li>– na własne potrzeby</li> </ul>
Manure Obornik	fertiliser nawóz	fertiliser nawóz	fertiliser nawóz

Table 2. Reproductive performance indices for sheep from selected agritourist farms in 2003–2005

Tabela 2. Wskaźniki użytkowości rozplodowej owiec z wybranych gospodarstw agroturystycznych w latach 2003–2005

Farm – Gospodarstwo Breed – Rasa	Year Rok	Fertility Płodność (%)	Prolificacy Plenność (%)	Lamb rearing Odchów jagniąt (%)
Koło Polish Merino Merynos polski	2005	93	156	96
	2006	95	158	94
	2007	97	159	95
	mean średnia	95	157	95
Tuchomko Pomeranian sheep Owca pomorska	2005	98	135	85
	2006	97	135	83
	2007	99	136	82
	mean średnia	98	136	83
Krzetów Świniarka Świniarka	2005	100	110	88
	2006	100	111	89
	2007	99	115	90
	mean średnia	100	112	89

#### 4. CONCLUSIONS

1. A direction of sheep production is dependent upon the breed choice and the production results may have a lesser or greater impact on the farm development.
2. Lambs of Polish Merino (Koło) as well as Pomeranian lambs (Tuchomko) are allocated for export as slaughter material and wool is used for quilt making.
3. Sheep constitute a major tourist attraction, which allows a closer contact with animals, particularly with lambs. They also meet the farm own needs (meat, skins).

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## ROLA OWIEC W WYBRANYCH GOSPODARSTWACH AGROTURYSTYCZNYCH

### Streszczenie

Celem pracy było określenie miejsca i roli owiec w gospodarstwie agroturystycznym, w tym zarówno w życiu człowieka-turysty, jak i w funkcjonowaniu gospodarstwa. Praca oparta jest na analizie działalności trzech gospodarstw, w których poza typową

działalnością agroturystyczną utrzymywane są owce. W gospodarstwie agroturystycznym na terenie woj. wielkopolskiego prowadzona jest hodowla zarodowa i towarowa merynosa polskiego, w drugim na terenie woj. pomorskiego owcy pomorskiej. Kolejne analizowane gospodarstwo agroturystyczne (woj. łódzkie) specjalizuje się w hodowli Świniarki, która to rasa owiec objęta jest ochroną zasobów genetycznych, a więc użytkowanie ma na celu jej ochronę i popularyzację. Merynos polski i owca pomorska są użytkowane w kierunku mięsnym, a jagnięta sprzedawane jako materiał rzeźny na eksport. Ponadto ze stad zarodowych kierowane są maciorki na sprzedaż jako materiał hodowlany. Analizując wskaźniki użytkowości rozplodowej badanych owiec należy podkreślić, że płodność w analizowanych gospodarstwach jest zbliżona do średnich zarejestrowanych w obrębie danych województw, natomiast wskaźniki plenności i odchowu jagniąt odbiegają od tych wartości i są niższe.

Słowa kluczowe: owce, gospodarstwo agroturystyczne