

ANALYSIS OF THE RESULTS OF NATIONAL THREE-DAY EVENT COMPETITION IN 2004–2008

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Abstract. Analysis included 232 horses starting in the eventing competition of the highest class C in Poland in 2004–2008. In total, 711 starts were analysed allowing for horse breed, ancestor breed (sire and dam), and horse sex and age. The Polish noble half-bred horses had the largest frequency, achieving the best results in all tests, i.e. dressage, cross-country and show jumping. A specialisation trend in the eventing, particularly in cross-country test, was observed in case of half-bred Anglo-Arabian horses. The worst results obtained the Wielkopolski horses and those with the Wielkopolski horse ancestry. The best results were achieved by the offspring of Anglo-Arabian and the Małopolski stallions and noble half-bred mares.

Keywords: competition results, three-day event

INTRODUCTION

The Three-Day Event is being derived from a tradition of military performance tests (*militari*). Their objective was to demonstrate agility, endurance, elegance, speed of a horse and its harmony with a rider. This discipline is being called a crown of horse riding considering enormous requirements which are being set for a horse and a rider. The eventing is composed of three tests being to some extent separate competitions: a dressage test in an enclosed quadrangle arena, a cross-country test, or just a cross-country, and a parkour jumping test, or a show jumping. The specific character of the Three-Day Event causes that only horses of predisposed breeds and being at a proper age are successful in it.

The aim of this study was to analyse the results of horses starting in the highest class C of national eventing competition in the seasons of 2004–2008 allowing for their breed, pedigree, sex and age.

MATERIAL AND METHODS

Study material consisted of 232 horses starting in the eventing of the highest class C in 2004–2008. Data were collected based on the list of sport results being available at the Polish Equestrian Association (PZJ) in Warsaw. The analysis included 711 starts of horses in a national class C eventing competition in 2004–2008 allowing for horse breed, ancestor breed (sire and dam), and horse sex and age.

In the paper, horses of the following breeds or groups were analysed: han – Hanoverian, ish – Irish Sport Horse, KWPN – Dutch Warmblood, m – Małopolski horse, nn – horse of unknown parentage, o – half-bred Arabian, oo – pure-bred Arabian, pony, sp – Polish noble half-bred, śl – Silesian, trk – Trakehner, westf – Westfalian, wlkp – Wielkopolski horse, x – English half-bred, xo – half-bred Anglo-Arabian, xx – Thoroughbred, xxoo – pure-bred Anglo-Arabian, as well as horses of other breeds (other).

Competition results are described specifying three eventing phases: dressage (A), cross-country (B) and show jumping (C). Competition performance is expressed as the number of penalty points; their lower number represents better competition result.

Distributions of frequencies as well as distribution of horse sport scores with respect to each of these criteria were analysed. Mean values (\bar{x}), maximum (max) and minimum (min) values, and standard deviations (S) for the number of penalty points obtained in respective eventing tests A, B and C were calculated, as well as the total number of points obtained in all tests A+B+C in case of completing the competition.

Statistical analysis of the results presented in tables was performed using Statistica® 8.0 computer software. Differences between the scores were examined in relation to competition cumulative score and separately to the score of each test using a non-parametric ANOVA test, i.e. the Kruskal-Wallis test. This test was performed only for these breeds which were represented in sufficient numbers (minimum 5 animals). Most horses had started more than once in a season, thus respective horses were counted the right number of times for each of the criteria adopted. At the same time, a total number of starts and a mean number of starts per one horse in a season were calculated.

RESULTS AND DISCUSSION

Table 1 presents in detail the number and the results of horses of respective breeds altogether for the seasons 2004–2008. The most numerous breeds are as follows: noble half-bred (31.4%), Małopolski horse (17.1%), Wielkopolski horse and Thoroughbred (16.6% each), and half-bred Anglo-Arabian (7.4%). Taking into consideration only these five breeds, the following statistically significant differences were found in the final score: the Wielkopolski horses achieved significantly worse scores (90.9 penalty points) than half-bred Anglo-Arabians (75.8 PP) or noble half-bred horses (79.0 PP). When analysing respective tests, the differences between the aforementioned breeds were statistically confirmed in case of dressage and cross-country. Participation of noble half-bred horses in national competition is considerable and results, among others, from the increase in

their population in Poland. Breeding of this breed horses is developing most dynamically at present, and its objective is to obtain a suitable material for competitive sport, being particularly useful in show jumping, dressage and eventing [Pietrzak et al. 2004, Pikuła and Bobik 2005, Chrzanowski and Łojek 1998]. However, horses with a contribution of Thoroughbred genes in their pedigree, such as the Małopolski horses or half-bred Anglo-Arabians, have still a sporting chance in the eventing [Cuber 2007]. Better scores of noble half-bred horses are confirmation of the breeding progress which has been taking place in this breed group over the last 15 years [Łojek 1996 b].

Table 2 comprises the results of horses starting in the Three-Day Event according to sire breed. Most horses were sired by Thoroughbred stallions (40.6%). Studies by other authors indicate that stallions of this breed transmit most favourable traits predisposing the offspring to the eventing discipline [Łojek 1996 b, Pietrzak et al. 2001, Geringer and Kielbasiewicz 2004]. The best cumulative results were achieved by the offspring of half-bred Anglo-Arabian stallions (73.5 penalty points) and the Małopolski ones (77.9 PP), which is also confirmed by the earlier study of Geringer and Kielbasiewicz [2004]. Better results in dressage test for horses sired by half-bred Anglo-Arabians than Trakehner stallions were statistically confirmed, in cross-country test for horses sired by the Małopolski stallions than the Wielkopolski ones, and in show jumping test for horses sired by half-bred Anglo-Arabians than half-bred Arabian stallions.

The results of horses according to dam breed are presented in Table 3. The most numerous group was the offspring of Thoroughbred mares (25.5%) and the Wielkopolski ones (19.3%) but it obtained the worst scores, on average more than 89 penalty points, which was confirmed statistically. The horses dammed by Westfalian and Hanoverian mares as well as Trakehner ones proved to be the best but their small number does not allow a clear-cut evaluation. Statistically significantly better results in dressage test were achieved by the offspring of half-bred Anglo-Arabian mares (54.0 penalty points) whereas in cross-country test the horses dammed by noble half-bred mares (9.4 PP). In show jumping test, no statistically significant differences were observed between mean values.

In the time period under discussion, geldings started most frequently (43.2%), mares slightly less (31.8%), whereas stallions the least (25%), which is presented in Table 4. Somehow better scores were obtained by mares (on average 82 penalty points) but statistical differences were not observed.

In Table 5, the age of horses starting in the Three-Day Event in 2004–2008 is analysed. Their age was examined separately in each season. Most horses were in the age group of 6–10 years (12–16%). The number of young horses exceeded that of older ones, over 14 years, but it was them which were achieving slightly better results. According to studies of other authors, the number of older horses is insignificant and they have a relatively short sport career [Łojek 1996 a, Pietrzak et al. 2004]. This does not say too well for the training methods and the exploitation of sport horses.

Table 1. Results of the Three-Day Event competition in 2004–2008 allowing for the breed of starting horses
 Tabela 1. Wyniki zawodów wkw w latach 2004–2008 z uwzględnieniem rasy startujących koni

| Breed Rasa | Horses Konie | | A Dressage A Ujeżdżenie | | | | B Cross-country B Kros | | | | C Show jumping C Skoki | | | | A+B+C | |
|-----------------|-----------------|-------|--------------------------------|-----|--------------------------------|------|--------------------------------|------|--------------------------------|-----|--------------------------------|------|--------------------------------|-----|-------|------|
| | n | % n | penalty points punkty karne | | penalty points punkty karne | | penalty points punkty karne | | penalty points punkty karne | | penalty points punkty karne | | penalty points punkty karne | | S | |
| | | | \bar{x} | S | \bar{x} | S | \bar{x} | S | \bar{x} | S | \bar{x} | S | \bar{x} | S | | |
| Han | 0 | 0.0 | 0 | 0.0 | – | – | – | – | – | – | – | – | – | – | – | – |
| Ish | 1 | 0.6 | 1 | 1.0 | 79.5 | 79.5 | 0.0 | 6.8 | 6.8 | 0.0 | 39.0 | 39.0 | 39.0 | 0.0 | 125.3 | 0.0 |
| KWPN | 2 | 1.1 | 3 | 1.5 | 61.2 | 58.9 | 65.7 | 3.2 | – | – | 4.0 | 0.0 | 8.0 | 4.0 | – | – |
| M | 30 | 17.1 | 115 | 3.8 | 59.0 | 36.8 | 166.0 | 14.1 | 18.2 | 0.0 | 124.0 | 27.1 | 10.4 | 0.0 | 87.2 | 14.7 |
| Nn | 1 | 0.6 | 1 | 1.0 | 71.0 | 71.0 | 0.0 | – | – | – | – | – | – | – | – | – |
| O | 4 | 2.3 | 14 | 3.5 | 52.3 | 41.6 | 63.9 | 5.7 | 8.9 | 0.0 | 92.4 | 24.7 | 8.1 | 0.0 | 31.0 | 10.1 |
| Oo | 0 | 0.0 | 0 | 0.0 | – | – | – | – | – | – | – | – | – | – | – | – |
| Other Inna | 2 | 1.1 | 7 | 3.5 | 65.4 | 53.6 | 76.4 | 8.0 | 19.7 | 0.0 | 39.6 | 14.8 | 8.6 | 0.0 | 28.0 | 9.5 |
| Pony Kuc | 4 | 2.3 | 7 | 1.8 | 63.2 | 59.6 | 74.6 | 5.1 | 10.5 | 0.0 | 27.0 | 10.3 | 9.1 | 0.0 | 27.0 | 8.7 |
| Sf | 0 | 0.0 | 0 | 0.0 | – | – | – | – | – | – | – | – | – | – | – | – |
| Sp | 55 | 31.4 | 164 | 3.0 | 59.4A | 34.6 | 168.0 | 21.1 | 12.2a | 0.0 | 102.2 | 22.1 | 8.3 | 0.0 | 90.2 | 12.4 |
| Śl | 1 | 0.6 | 1 | 1.0 | 55.5 | 55.5 | 55.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 55.5 |
| Trk | 1 | 0.6 | 2 | 2.0 | 59.5 | 58.4 | 60.6 | 1.1 | 3.8 | 0.0 | 7.6 | 3.8 | 2.0 | 0.0 | 4.0 | 2.0 |
| Westf | 1 | 0.6 | 1 | 1.0 | 53.2 | 53.2 | 53.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 53.2 |
| Wlqp | 29 | 16.6 | 119 | 4.1 | 62.0AB | 39.3 | 168.0 | 17.8 | 21.8a | 0.0 | 124.6 | 27.4 | 9.2 | 0.0 | 79.6 | 11.9 |
| X | 0 | 0.0 | 0 | 0.0 | – | – | – | – | – | – | – | – | – | – | – | – |
| Xo | 13 | 7.4 | 57 | 4.4 | 54.3BC | 38.6 | 90.0 | 8.6 | 13.1 | 0.0 | 102.8 | 20.6 | 8.9 | 0.0 | 83.8 | 13.6 |
| Xx | 29 | 16.6 | 109 | 3.8 | 60.8C | 40.7 | 165.0 | 16.4 | 20.3 | 0.0 | 177.8 | 36.1 | 9.7 | 0.0 | 105.4 | 15.8 |
| Xxoo | 2 | 1.1 | 9 | 4.5 | 69.4 | 48.8 | 172.0 | 36.6 | 6.6 | 0.0 | 17.0 | 6.4 | 11.4 | 0.0 | 58.4 | 17.3 |
| Total Ogółem | 175 | 100.0 | 610 | 3.5 | – | – | – | – | – | – | – | – | – | – | – | – |

A, a – means in columns marked with the same letter differ highly significantly at $P \leq 0.01$ (A) or significantly at $P \leq 0.05$ (a).

A, a – średnie w kolumnach, oznaczone tymi samymi literami, różnią się wysoko istotnie przy $P \leq 0.01$ (A), istotnie przy $P \leq 0.05$ (a).

Table 2. Cumulative results of the horses starting in the Three-Day Event in 2004–2008 according to sire breed
 Tabela 2. Łączne wyniki koni startujących w wtkw w latach 2004–2008 w zależności od rasy ojca

| Sire breed Rasa ojca | Horses Konie | | Starts Starty | | A Dressage A Ujeżdżenie | | | | B Cross-country B Kros | | | | C Show jumping C Skoki | | | | A+B+C | | | |
|-------------------------|-----------------|-------|------------------|----------------------|----------------------------|------|-------|------|---------------------------|-----|-------|------|---------------------------|-----|-------|-------|--------------------------------|--------------------------------|-------|------|
| | n | % | n | horse na konia | \bar{x} | min | max | S | \bar{x} | min | max | S | \bar{x} | min | max | S | penalty points punkty karne | penalty points punkty karne | | |
| Han | 2 | 1.2 | 6 | 3.0 | 52.5 | 47.3 | 59.4 | 4.5 | 1.6 | 0.0 | 6.4 | 2.4 | 3.2 | 0.0 | 7.0 | 2.5 | 57.2 | 48.0 | 63.4 | 5.2 |
| Ish | 1 | 0.6 | 1 | 1.0 | 79.5 | 79.5 | 79.5 | 0.0 | 6.8 | 6.8 | 0.0 | 39.0 | 39.0 | 0.0 | 125.3 | 125.3 | 125.3 | 125.3 | 0.0 | 0.0 |
| KWPN | 7 | 4.2 | 16 | 2.3 | 62.1 | 36.1 | 163.0 | 27.2 | 9.7 | 0.0 | 56.0 | 16.8 | 12.4 | 0.0 | 70.0 | 16.9 | 84.4 | 44.1 | 171.0 | 35.4 |
| M | 17 | 10.3 | 74 | 4.4 | 58.5 | 36.8 | 90.0 | 10.4 | 12.7a | 0.0 | 96.8 | 24.2 | 9.9 | 0.0 | 87.2 | 16.6 | 77.9 | 37.8 | 164.6 | 32.4 |
| Nn | 3 | 1.8 | 3 | 1.0 | 68.5 | 60.0 | 74.6 | 6.2 | – | – | – | 12.0 | 12.0 | 0.0 | – | – | – | – | – | – |
| O | 5 | 3.0 | 9 | 1.8 | 53.1 | 45.7 | 78.6 | 9.5 | 10.6 | 0.0 | 36.8 | 12.7 | 13.6a | 0.0 | 30.0 | 8.6 | 79.8 | 70.8 | 94.0 | 8.2 |
| Oo | 4 | 2.4 | 18 | 4.5 | 63.4 | 44.6 | 172.0 | 27.2 | 14.2 | 0.0 | 83.8 | 21.1 | 17.0 | 0.0 | 83.8 | 21.5 | 94.7 | 50.8 | 182.0 | 37.4 |
| Other Inna | 0 | 0.0 | 0 | 0.0 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Pony Kuc | 1 | 0.6 | 3 | 3.0 | 59.7 | 59.6 | 60.0 | 0.2 | 14.5 | 0.0 | 27.0 | 11.1 | 10.3 | 0.0 | 27.0 | 11.9 | 84.5 | 80.4 | 86.6 | 2.9 |
| Sf | 0 | 0.0 | 0 | 0.0 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Sp | 23 | 13.9 | 58 | 2.5 | 59.2 | 38.6 | 165.0 | 16.7 | 19.6 | 0.0 | 97.2 | 25.9 | 10.9 | 0.0 | 90.2 | 16.4 | 89.6 | 48.2 | 175.0 | 33.4 |
| Śl | 0 | 0.0 | 0 | 0.0 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Trk | 5 | 3.0 | 22 | 4.4 | 57.5a | 46.1 | 67.9 | 5.7 | 19.1 | 0.0 | 124.6 | 32.6 | 5.6 | 0.0 | 20.8 | 5.2 | 82.3 | 50.1 | 193.4 | 36.5 |
| Westf | 2 | 1.2 | 3 | 1.5 | 49.9 | 44.3 | 53.2 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.7 | 0.0 | 4.0 | 1.9 | 52.5 | 48.3 | 56.1 | 3.2 |
| Wilkp | 12 | 7.3 | 42 | 3.5 | 65.8 | 45.4 | 168.0 | 23.7 | 25.0a | 0.0 | 101.2 | 26.7 | 10.0 | 0.0 | 43.0 | 11.1 | 95.9 | 52.0 | 206.0 | 34.1 |
| X | 0 | 0.0 | 0 | 0.0 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Xo | 14 | 8.5 | 52 | 3.7 | 57.3a | 38.9 | 166.0 | 16.9 | 11.3 | 0.0 | 102.8 | 19.3 | 6.6a | 0.0 | 42.0 | 9.5 | 73.5 | 38.9 | 170.0 | 26.9 |
| Xx | 67 | 40.6 | 245 | 3.7 | 59.9 | 34.6 | 168.0 | 16.6 | 18.2 | 0.0 | 177.8 | 29.9 | 9.1 | 0.0 | 105.4 | 13.6 | 85.6 | 42.7 | 376.8 | 41.6 |
| Xxoo | 2 | 1.2 | 11 | 5.5 | 53.1 | 38.6 | 68.2 | 8.8 | 21.5 | 0.0 | 124.0 | 35.6 | 5.5 | 0.0 | 20.4 | 6.7 | 80.1 | 42.6 | 192.2 | 39.6 |
| Total Ogółem | 165 | 100.0 | 563 | 3.4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

a – means in columns differ significantly at $P \leq 0.05$.

a – średnie w kolumnach różnią się istotnie przy $P \leq 0,05$.

Table 3. Results of the Three-Day Event competition in 2004–2008 allowing for the dam breed of starting horses
 Tabela 3. Wyniki zawodów wkw w latach 2004–2008 z uwzględnieniem rasy matki startujących koni

| Dam breed Rasa matki | Horses Konie | Starts Starty | per horse na konia | A Dressage A Ujeżdżenie | | | B Cross-country B Kros | | | C Show jumping C Skoki | | | A+B+C | | | | | | | |
|----------------------------|-----------------|------------------|-----------------------------|----------------------------|--------|------|---------------------------|------|-------|---------------------------|-------|------|-------|------|-------|-------|--------|-------|-------|------|
| | | | | n | % | n | min | max | S | min | max | S | min | max | S | min | max | S | | |
| Han | 1 | 0.6 | 2 | 2.0 | 53.1 | 50.4 | 55.8 | 2.7 | 0.4 | 0.4 | 0.0 | 4.0 | 0.0 | 8.0 | 4.0 | 56.2 | 56.2 | 56.2 | 0.0 | |
| Ish | 1 | 0.6 | 1 | 1.0 | 79.5 | 79.5 | 79.5 | 0.0 | 6.8 | 6.8 | 0.0 | 39.0 | 39.0 | 39.0 | 0.0 | 125.3 | 125.3 | 125.3 | 0.0 | |
| KWPN | 1 | 0.6 | 2 | 2.0 | 62.3 | 58.9 | 65.7 | 3.4 | – | – | – | 8.0 | 8.0 | 8.0 | 0.0 | – | – | – | – | |
| M | 27 | 16.8 | 100 | 3.7 | 58.3 | 36.8 | 166.0 | 15.4 | 16.1 | 0.0 | 120.6 | 24.6 | 11.2 | 0.0 | 90.2 | 17.3 | 82.2 | 37.8 | 170.0 | 31.5 |
| Nn | 4 | 2.5 | 7 | 1.8 | 59.1 | 48.9 | 74.6 | 9.3 | 56.9 | 33.2 | 71.6 | 16.9 | 10.4 | 8.0 | 12.0 | 2.0 | 118.2 | 94.1 | 131.9 | 17.1 |
| O | 1 | 0.6 | 1 | 1.0 | 51.1 | 51.1 | 51.1 | 0.0 | – | – | – | 12.0 | 12.0 | 12.0 | 0.0 | – | – | – | – | |
| Oo | 0 | 0.0 | 0 | 0.0 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | |
| Other Inna | 0 | 0.0 | 0 | 0.0 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | |
| Pony Kuc | 2 | 1.2 | 5 | 2.5 | 61.6 | 59.6 | 64.3 | 2.2 | 10.5 | 0.0 | 27.0 | 10.3 | 8.0 | 0.0 | 27.0 | 10.1 | 80.0 | 73.3 | 86.6 | 6.0 |
| Sf | 0 | 0.0 | 0 | 0.0 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | |
| Sp | 23 | 14.3 | 73 | 3.2 | 57.5 | 34.6 | 165.0 | 15.7 | 9.4A | 0.0 | 102.2 | 20.5 | 6.9 | 0.0 | 44.0 | 9.0 | 73.8A | 43.6 | 178.2 | 28.7 |
| Sl | 2 | 1.2 | 2 | 1.0 | 67.1 | 55.5 | 78.6 | 11.6 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 | 8.0 | 4.0 | 71.1 | 55.5 | 86.6 | 15.6 |
| Trk | 7 | 4.3 | 24 | 3.4 | 55.0 | 42.3 | 68.9 | 7.8 | 6.8 | 0.0 | 72.4 | 16.1 | 6.6 | 0.0 | 32.0 | 8.9 | 67.4a | 42.7 | 146.0 | 23.0 |
| Westf | 1 | 0.6 | 1 | 1.0 | 53.2 | 53.2 | 53.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 53.2 | 53.2 | 53.2 | 0.0 |
| Wlkp | 31 | 19.3 | 115 | 3.7 | 62.3A | 43.2 | 168.0 | 19.0 | 22.1A | 0.0 | 124.6 | 26.6 | 10.0 | 0.0 | 79.6 | 12.7 | 91.6Aa | 48.2 | 206.0 | 34.7 |
| X | 0 | 0.0 | 0 | 0.0 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | |
| Xo | 15 | 9.3 | 62 | 4.1 | 54.0AB | 36.1 | 75.3 | 8.7 | 19.4 | 0.0 | 124.0 | 28.4 | 9.8 | 0.0 | 83.8 | 15.9 | 82.6 | 38.9 | 192.2 | 35.3 |
| Xx | 41 | 25.5 | 148 | 3.6 | 62.7B | 40.7 | 172.0 | 21.1 | 17.8 | 0.0 | 177.8 | 32.4 | 9.6 | 0.0 | 105.4 | 15.0 | 89.3 | 44.6 | 376.8 | 47.7 |
| Xxoo | 4 | 2.5 | 14 | 3.5 | 57.4 | 50.7 | 73.7 | 6.4 | 8.9 | 0.0 | 49.2 | 15.8 | 8.4 | 0.0 | 20.0 | 7.5 | 72.8 | 51.1 | 117.4 | 19.6 |
| Total Ogółem | 161 | 100.0 | 557 | 3.5 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | |

A, a – means in columns marked with the same letter highly significantly at $P \leq 0.01$ (A) or significantly at $P \leq 0.05$ (a).

A, a – średnie w kolumnach, oznaczone tymi samymi literami, różnią się wysoko istotnie przy $P \leq 0,01$ (A), istotnie przy $P \leq 0,05$ (a).

Table 4. Results of the Three-Day Event competition in 2004–2008 allowing for the sex of starting horses
 Tabela 4. Wyniki zawodów wkw w latach 2004–2008 z uwzględnieniem płci startujących koni

| Sex Płeć | Horses Konie | n | % | Starts Starty | per horse na konia | A Dressage A Ujeżdżenie | | | B Cross-country B Kros | | | C Show jumping C Skoki | | | A+B+C | | | | | |
|---------------------|-----------------|-------|-----|------------------|-----------------------------|--------------------------------|-------|------|---------------------------|-----|--------------------------------|---------------------------|-----|-----------|-------|--------------------------------|------|------|-----------|------|
| | | | | | | penalty points punkty karne | min | max | \bar{x} | S | penalty points punkty karne | min | max | \bar{x} | S | penalty points punkty karne | min | max | \bar{x} | S |
| Mares Klaczce | 56 | 31.8 | 189 | 3.4 | 59.9 | 38.6 | 168.0 | 15.5 | 15.7 | 0.0 | 102.8 | 24.0 | 8.2 | 0.0 | 90.2 | 12.1 | 82.4 | 42.6 | 206.0 | 29.8 |
| Stallions Ogry | 44 | 25.0 | 168 | 3.8 | 58.6 | 34.6 | 172.0 | 19.4 | 17.3 | 0.0 | 143.4 | 28.8 | 9.9 | 0.0 | 86.8 | 14.0 | 84.7 | 37.8 | 218.8 | 40.2 |
| Geldings Wałachy | 76 | 43.2 | 252 | 3.3 | 60.4 | 37.9 | 168.0 | 17.4 | 16.9 | 0.0 | 177.8 | 27.8 | 9.9 | 0.0 | 105.4 | 14.4 | 85.3 | 41.6 | 376.8 | 40.0 |
| Total Ogółem | 176 | 100.0 | 609 | 3.5 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

Table 5. Results of the Three-Day Event competition in 2004–2008 according to the age of starting horses
 Tabela 5. Wyniki zawodów wkkw w latach 2004–2008 w zależności od wieku startujących koni

| Age in years Wiek w latach | Horses Konie | | Starts Starty | | A Dressage A Ujeżdżenie | | | | B Cross-country B Kros | | | | C Show jumping C Skoki | | | | A+B+C | | | |
|-------------------------------------|-----------------|-------|------------------|-----------------------------|----------------------------|------|-------|------|--------------------------------|-----------|-------|------|---------------------------|--------------------------------|-----------|------|-------|-------|-------|------|
| | n | % | n | per horse na koniu | \bar{x} | min | max | S | penalty points punkty karne | \bar{x} | min | max | S | penalty points punkty karne | \bar{x} | min | max | S | | |
| 1 | 0 | 0.0 | 0 | 0.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 2 | 0 | 0.0 | 0 | 0.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 3 | 0 | 0.0 | 0 | 0.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 4 | 1 | 0.3 | 2 | 2.0 | 49.2 | 47.3 | 51.0 | 1.8 | 3.2 | 0.0 | 6.4 | 3.2 | 5.5 | 4.0 | 7.0 | 1.5 | 57.9 | 55.0 | 60.7 | 2.9 |
| 5 | 23 | 7.1 | 40 | 1.7 | 60.8 | 34.6 | 166.0 | 25.8 | 11.9 | 0.0 | 77.0 | 18.2 | 10.5 | 0.0 | 70.0 | 14.3 | 81.6 | 43.6 | 173.0 | 32.8 |
| 6 | 53 | 16.3 | 100 | 1.9 | 59.2 | 36.8 | 165.0 | 18.2 | 17.1 | 0.0 | 177.8 | 32.6 | 9.2 | 0.0 | 90.2 | 13.9 | 82.9 | 37.8 | 376.8 | 48.6 |
| 7 | 56 | 17.2 | 110 | 2.0 | 58.8 | 36.1 | 165.0 | 13.3 | 14.1 | 0.0 | 124.0 | 21.9 | 8.7 | 0.0 | 86.8 | 15.0 | 80.6 | 38.9 | 199.4 | 33.7 |
| 8 | 40 | 12.3 | 76 | 1.9 | 61.6 | 37.9 | 172.0 | 20.1 | 20.5 | 0.0 | 143.4 | 30.2 | 8.2 | 0.0 | 87.2 | 13.2 | 88.7 | 46.5 | 218.8 | 38.8 |
| 9 | 45 | 13.8 | 83 | 1.8 | 60.3 | 43.2 | 166.0 | 15.2 | 13.9 | 0.0 | 102.2 | 20.4 | 11.5 | 0.0 | 80.2 | 13.4 | 83.6 | 44.6 | 178.2 | 28.4 |
| 10 | 40 | 12.3 | 73 | 1.8 | 60.5 | 39.3 | 168.0 | 18.7 | 14.5 | 0.0 | 96.8 | 25.0 | 6.9 | 0.0 | 43.0 | 8.3 | 79.8 | 42.7 | 180.7 | 33.3 |
| 11 | 16 | 4.9 | 32 | 2.0 | 57.2 | 45.6 | 70.4 | 5.8 | 24.5 | 0.0 | 108.6 | 30.9 | 12.0 | 0.0 | 105.4 | 19.3 | 94.0 | 54.0 | 161.5 | 32.3 |
| 12 | 19 | 5.8 | 33 | 1.7 | 62.5 | 40.7 | 168.0 | 20.7 | 27.0 | 0.0 | 124.6 | 38.5 | 12.7 | 0.0 | 83.8 | 16.9 | 99.5 | 48.7 | 206.0 | 44.9 |
| 13 | 15 | 4.6 | 24 | 1.6 | 57.7 | 44.3 | 71.0 | 7.1 | 13.3 | 0.0 | 78.4 | 19.0 | 7.1 | 0.0 | 28.0 | 6.5 | 79.2 | 48.3 | 149.9 | 22.8 |
| 14 | 5 | 1.5 | 9 | 1.8 | 52.0 | 44.3 | 61.9 | 5.3 | 15.9 | 0.0 | 52.8 | 17.5 | 5.8 | 0.0 | 13.0 | 4.9 | 72.9 | 48.0 | 110.1 | 22.7 |
| 15 | 7 | 2.2 | 10 | 1.4 | 55.6 | 45.4 | 60.6 | 4.3 | 11.9 | 0.0 | 59.6 | 21.5 | 8.4 | 0.0 | 32.0 | 9.7 | 77.9 | 61.7 | 127.5 | 23.4 |
| 16 | 1 | 0.3 | 1 | 1.0 | 80.7 | 80.7 | 80.7 | 0.0 | - | - | - | - | - | - | - | - | - | - | - | - |
| 17 | 2 | 0.6 | 2 | 1.0 | 56.7 | 51.6 | 61.8 | 5.1 | 34.4 | 3.2 | 65.6 | 31.2 | 13.0 | 0.0 | 26.0 | 13.0 | 104.1 | 54.8 | 153.4 | 49.3 |
| 19 | 1 | 0.3 | 2 | 2.0 | 51.8 | 48.9 | 54.6 | 2.9 | 49.6 | 33.2 | 66.0 | 16.4 | 10.0 | 8.0 | 12.0 | 2.0 | 111.4 | 94.1 | 128.6 | 17.3 |
| 20 | 1 | 0.3 | 2 | 2.0 | 52.2 | 52.1 | 52.3 | 0.1 | 71.6 | 71.6 | 71.6 | 0.0 | 8.0 | 8.0 | 8.0 | 0.0 | 131.9 | 131.9 | 131.9 | 0.0 |
| Total Ogółem | 325 | 100.0 | 599 | 1.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

CONCLUSIONS

The most numerous group of horses starting in the Three-Day Event in Poland the years 2004–2008 were Polish noble half-bred horses, which is evidence of a dynamic development of this breed and its usefulness for this discipline. Noble half-bred horses achieved very good results in all tests of the eventing discipline, i.e. dressage, cross-country and show jumping. A specialisation trend in the eventing, in particular for cross-country test, may be observed in the breeding of half-bred Anglo-Arabians. The lowest evaluation was achieved by the Wielkopolski horses which, for several years, were considered to be predisposed to the eventing. This questions the competitive future of that native Polish breed in this discipline. Horses sired by the Wielkopolski stallions achieved the worst scores in dressage and cross-country. The offspring of Anglo-Arabian and the Małopolski sires proved to be statistically better. Horses dammed by noble half-bred mares achieved better scores in cross-country and show jumping than other ones. The offspring of the Wielkopolski dams performed the worst.

REFERENCES

- Chrzanowski S., Łojek J., 1998. Project of the breeding programme for noble horses [Projekt programu hodowlanego dla koni szlacheckich]. *Prz. Hod.* 9, 15–18 [in Polish].
- Cuber A., 2007. The ranking of the best eventing sires according to WBFSH for the 2006 season [Ranking najlepszych ojców wkkw według WBFSH za sezon 2006]. *Świat Koni* 9, 34–41 [in Polish].
- Geringer H., Kielbasiewicz A., 2004. Evaluation of the breeding value of stallions based on the utility value of their offspring starting in national eventing competition in 1992–2002 [Ocena wartości hodowlanej ogierów na podstawie wartości użytkowej ich potomstwa startującego w krajowych zawodach WKKW w latach 1992–2002]. *Zesz. Nauk. Prz. Hod.* 72 (5), 17–25 [in Polish].
- Łojek J., 1996 a. Analysis of the starting career of sport horses according to their age [Analiza przebiegu kariery startowej koni sportowych w zależności od ich wieku]. *Zesz. Nauk. Prz. Hod.* 25, 69–76 [in Polish].
- Łojek J., 1996 b. The results obtained by horses of different breeds in national equestrian sport in 1981–1992 [Wyniki uzyskiwane przez konie różnych ras w krajowym sporcie jeździeckim w latach 1981–1992]. *Zesz. Nauk. Prz. Hod.* 25, 51–58 [in Polish].
- Pietrzak S., Bekiesz D., Cuber A., 2004. Determination of the utility value of different horse breeds in respective disciplines of national equestrian sport in 2001–2002 [Określenie wartości użytkowej różnych ras koni w poszczególnych dyscyplinach krajowego sportu jeździeckiego w latach 2001–2002]. *Zesz. Nauk. Prz. Hod.* 72 F (5), 75–84 [in Polish].
- Pietrzak S., Depa M., Nowak P., 2001. Analysis and evaluation of the fitness of Polish noble horses for the Three-Day Event [Analiza i ocena przydatności do Wszechstronnego Konkursu Konia Wierzchowego polskich koni szlacheckich]. *Rocz. Nauk. Zootech.* 14, 327–335 [in Polish].
- Pikuła R., Bobik J., 2005. The Polish noble half-bred horse [Polski koń szlachecki półkrwi]. *Hodowca i Jeździec* 7, 12–14 [in Polish].

ANALIZA WYNIKÓW ZAWODÓW KRAJOWYCH WE WSZECHSTRONNYM KONKURSIE KONIA WIERZCHOWEGO W LATACH 2004–2008

Streszczenie. Analizą objęto 232 konie startujące w konkurencji wszechstronnego konkursu konia wierzchowego najwyższej klasy „C” w latach 2004–2008. Przeanalizowano 711 startów, uwzględniając rasę konia, rasę przodków (ojciec, matka), płeć oraz wiek konia. Największą frekwencję miały konie rasy polski koń szlachetny półkrwi, osiągając najlepsze wyniki we wszystkich próbach – ujeżdżeniu, krosie i skokach. Tendencję w specjalizacji w wkkw, zwłaszcza do próby terenowej, zauważono w przypadku koni rasy półkrwi angloarabskiej. Najgorsze rezultaty miały konie rasy wielkopolskiej i po przodkach wielkopolskich. Najlepsze wyniki osiągnęło potomstwo ogierów angloarabskich i małopolskich oraz matek szlachetnych półkrwi.

Słowa kluczowe: wszechstronny konkurs konia wierzchowego, wyniki zawodów

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