ROMANIAN SPORT HORSES: EFFECTS OF COMPETITION LEVEL, SEX AND BREEDER ON THE NATIONAL SHOW JUMPING RANKING

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Abstract

The study of the average performance regarding the results in national show jumping competitions for the horses from the Romanian Sport Breed (RSB) is particularly important because in this way we can form an idea about the performance level in show jumping for this population.

The objective of this study was to analyze the differences between the horses from RSB regarding competition level, sex and breeder, and to investigate the impact of these factors on the average competition results for the last 3 years.

For this research we examine all the horses legitimated FER from RSB participants in national show jumping competition, divided in 2 groups for breeder variable and 3 groups for sex variable and 5 groups for competition level variable.

The results of the statistical analyze show that for the breeder variable the score for competition results present a statistically significant differences for the 0.01 significance level, and for the competition level variable the results from the statistical analysis shows that the score for competition results presents a statistically significant differences for the 0.001 significance level.

Also, the results show that from the distribution of RSB legitimated FER participants in national show jumping competitions, 44.63% participate at FE level (the lower difficulty level) and only 8.26% at BA level (the highest difficulty level).

In conclusion, we can say that private farms succede to obtain superior results to those from stud farms regarding to the performance level obtained in the national show jumping championship.

Key words: show jumping, ranking, sport horses, warmblood

INTRODUCTION

The perfect equestrian show that we can watch today in increasingly numerous high level competitions is only one face of a huge gear unit - farming "production" and enhancement of the sport horse. The intense competition from the big tournaments causing extensive research for finding an effective way of improving performance. [1]

However, in order to successfully compete in show jumping, especially in international competitions and the Olympic Games, it requires a sport horse with certain characteristics that will allow it to participate successfully at this level.[2]

The study of the average performance regarding the results in national show jumping competitions for the horses from the Romanian Sport Breed (RSB) is particularly important because in this way we can form an idea about the performance level in show jumping for this population.

MATERIAL AND METHOD

1. Animals

For this research we examine the entire population of horses from the Romanian Sport Horse (RSB) breed that are legitimated to Romanian Equestrian Federation (FER) and participants in national show jumping competitions from 2012 to 2014.

This RSB horses come from both stud farms and private farms, consisting of 121 individuals, of whom 67 individuals represent RSB horses from stud farms and 54

individuals representing RSB horses coming from private farms.

In this research we had 3 independent variables divided in two groups for breeder variable (stud farms and private farms), three groups for sex variable (geldings, stallions and mares) and five groups for competition level variable (EF levels, DC levels, BA+CD levels, BA+CD+EF level and EF+DC levels).

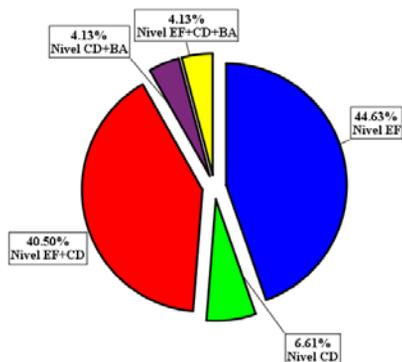The horse distribution for competition level is shown in Figure 1.

Figure 1 Horse distribution according to competition level

All the data were assessed based on FER reports, also serving in the calculation and assessment of results of competitions each year separately, for each and every horse in part.

The competition results of each horse were judged in part as follows (Figure 2.)[3]:

- for the first 5 places were offered points for the obtained place (5 point for first place, 4 points for second place, 3 points for third place, 2 points for fourth place and 1 point for fifth place);
- number of points obtained was multiplied by 1, 1.5 or 2 along with the raising of tests difficulty;
- the scores were calculated for each horse regardless of the rider because we want to realize an analysis of the horse sports performance and not those of the rider;
- we considered and awarded points only for the first 5 places in each test because under FER Regulation prizes are accorded to 25% of the number of

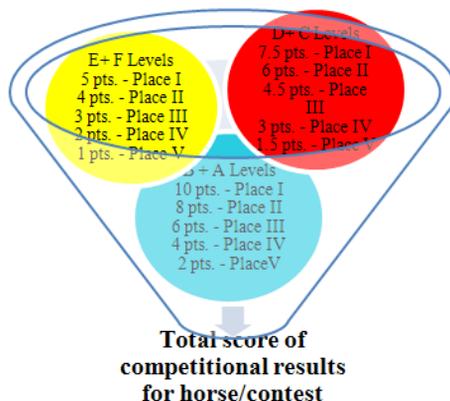starts, but at least to the first 5 finishers [4].

Figure 2 Assessment of competition results

2. Statistical analysis

Data was manipulated and analyzed using SPSS Version 21 for Windows (IBM, USA) the following statistical analyzes being performed:

- Independent Sample T-Test;
- One-Way ANOVA;
- Descriptive statistics on the distribution of variables, mean, median, graphs etc.

The value of alpha was set at 0.05 for all statistical tests.

The objective of this study was to analyze the differences between the horses from RSB regarding competition level, sex and origin, and to investigate the impact of these factors on the average competition results for the last 3 years.

RESULTS AND DISCUSSION

The results show that for:

- sex variable: - 33.06% of the horses are mares, 28.10% are stallions and 38.84% are geldings;
- breeder variable: - 55.37% of the horses come from stud farms and 44.63% from private farms;
- competition level: - 44.63% of the horses compete on EF levels, 6.61% on DC levels, 4.13% on BA+DC levels, 4.13% on BA+CD+EF levels and 40.50% on EF+DC levels;

For the RSB horses from stud farms that are legitimated FER and competing in show jumping we observed that the highest value of the factor score for competition results was recorded for the stallion Ogică with an overall score of 248.5 points, while the lowest value was recorded for the geldings Modest, Reflex, the stallions Antet, Ion, Tribun, Tunet, Vuiet and the mare Rapsodia with a total score equal to 0. The average performance for this factor is 26.86 points. (Table 1)

For the RSB horses from private farms that are legitimated FER and competing in show jumping tests we observed that the highest value of the factor score for competition results was recorded for the gelding Ukaz with an overall score of 248.5 points, while the lowest value was recorded for the gelding Optic with a total score equal to 0. The average performance for this factor is 49.76 points. (Table 1)

The results shows that the total score for competition results for all 121 horses taken into study vary between 0 and 248.5 points, with an average of 37.09 points. (Table 1 and Figure 3)

Table 1 Descriptive statistics for the competition results variable

Competition results	N	$\bar{X} \pm S_{\bar{X}}$	s	V%	Min.	Max.
RSB Stud Farms	67	26.86±5.03	41.19	153.36	0	248.5
RSB Private Farms	54	49.7±96.9	50.73	101.89	0	248.5
Total Effective	121	37.09±4.26	46.91	126.47	0	248.5

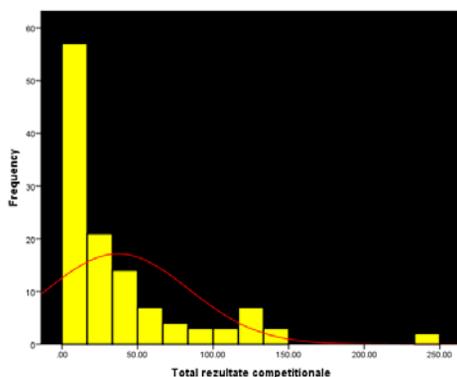Figure 3 Normal distribution of the score for competition results in the studied population

1. Breeder

For the breeder variable the results from the statistical analysis shows that the score for competition results present a statistically significant differences for the 0.01 significance level (t=-2.685, p=0.008).

Therefore, we can say that the score for competition results is significantly higher for the horses from private farms ($\bar{X}_2$=49.79) compared to the horses from stud farms ($\bar{X}_1$=26.85).

Table 2 Descriptive statistics for the breeder variable

Breeder variable	N	$\bar{X}$	s	$\pm S_{\bar{X}}$	Minim	Maxim
Stud farms	67	26.85	41.18	5.03	0	248.5
Private farms	54	49.76	50.73	6.9	0	248.5
Total	121	37.09	46.91	4.26	0	248.5

2. Sex

For the sex variable the results from the statistical analysis shows that the score for competition results doesn't present statistically significant differences for the 0.05 significance level (F = 0.508, p = 0.603).

Therefore, we can say that, regarding the score for competition results there are no statistically significant differences between mares, geldings and stallions.
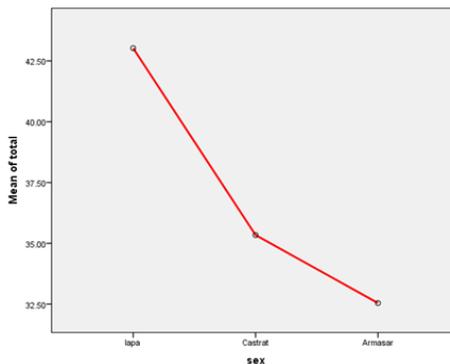

Figure 4 Means Plots of the score for competition results for sex variable

Table 3 Descriptive statistics for the sex variable

Sex variable	N	$\bar{X}$	s	$\pm S_{\bar{X}}$	Minim	Maxim
mare	40	43.02	44.84	7.09	0	138.5
stallion	34	32.54	50.27	8.62	0	248.5
gelding	47	35.34	46.63	6.8	0	248.5
Total	121	37.09	46.91	4.26	0	248.5

3. Competition level

For the competition level the results from the statistical analysis shows that the score for competition results presents a statistically significant differences for the 0.001 significance level (F=17.872, p<0.001).

Therefore, we can say that the score for competition results is significantly higher for horses that compete in BA+DC levels ($\bar{X}_4$=106.90) compared to horses that compete in EF levels ($\bar{X}_1$=10.09, p<0.001), the horses that compete in DC levels ($\bar{X}_2$=38.81, p=0.002) and the ones that compete in EF+DC levels ($\bar{X}_3$=52.10, p=0.002).

Also, the score for competition results is significantly higher for horses that compete in BA+DC+EF levels ($\bar{X}_5$=109.10) compared to horses that compete in EF levels ($\bar{X}_1$=10.09, p<0.001), the horses that compete in DC levels ($\bar{X}_2$=38.81, p=0.001) and the ones that compete in EF+DC levels ($\bar{X}_3$=52.10, p=0.002).

The score for competition results is significantly lower for horses that compete in EF levels ($\bar{X}_1$=10.09) compared to horses that compete in DC levels ($\bar{X}_2$=38.81, p=0.046) and the ones that compete in EF+DC levels ($\bar{X}_3$=52.10, p<0.001).
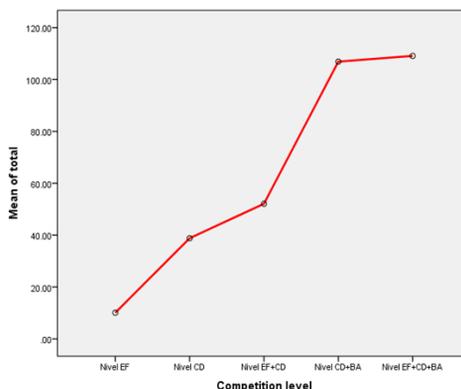

Figure 5 Means Plots of the score for competition results for competition level variable

Table 4 Descriptive statistics for the competition level variable

Competition level variable	N	$\bar{X}$	s	$\pm S_{\bar{X}}$	Minim	Maxim
EF level	54	10.09	12.42	1.69	0	56
DC level	8	38.81	51.75	18.29	3	126
BA+DC level	5	106.9	43.43	19.42	34	139
BA+DC+EF level	5	109.1	87.68	39.21	19.5	248.5
EF+DC level	49	52.1	45.22	6.46	2.5	248.5
Total	121	37.09	46.91	4.26	0	248.5

CONCLUSIONS

From those shown so far it can be seen that the majority of RSB horse participates in the lowest difficulty samples (44.63% in FE levels tests) and only 8.26% in the samples with the highest level of difficulty (BA levels tests).

In conclusion, we can say that private farms succede to obtain superior results to those from stud farms regarding to the performance level obtained in the national show jumping championship.

For the future is impetuously necessary to compare the level of performance achieved in show jumping national championship by the RSB horses with the one of other sport horse breeds.

ACKNOWLEDGEMENTS

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[4] http://www.fer.org.ro/pdf/regulament-competitional-2013.pdf