

PRODUCTION RESULTS OF BROILER CHICKEN FARMS OF DIFFERENT CAPACITIES IN REGION OF BANJA LUKA



9th International Symposium on Agricultural Sciences
24 September 2020, Banja Luka

Marinko Vekić
Živko Klincov
Stoja Jotanović
Đorđe Savić



University of Banja Luka
Faculty of Agriculture
University city, Bulevar vojvode Petra Bojovića 1A
78.000 Banja Luka



AIM

The aim of this study was to determine and compare the selected production results depending on the broiler farm capacity, and to present its average values in order to evaluate the state of this production in the region of Banja Luka in the period 2013-2014.

MATERIAL & METHODS

This study was based on data obtained from production reports of a total of 60 fattening rounds of Cobb 500 chicken archived during 2013 and 2014 on six broiler farms in the region of Banja Luka. Farms were categorized into three equal groups according to capacity (chicken/round): small (6.000), medium (10.000) and large (20.000). Following parameters were examined: fattening duration (days), initial (g) and final (kg) chicken weight, feed conversion ratio, first-week and total mortality (%), and European production efficiency factor (EPEF).

Methods of descriptive analysis and one-way analysis of variance were used in statistical processing of data, while the significance of differences was determined at $p < 0.05$.

$$EPEF = \frac{\text{Average body weight (kg)} \times \text{Livability (\%)}}{\text{Feed conservation ratio} \times \text{Fattening duration (days)}} \times 100$$

RESULTS

Table 1. Fattening duration, initial and final chicken weight and feed conversion ratio (M – mean, SD – stand. deviation, IV – variation interval)

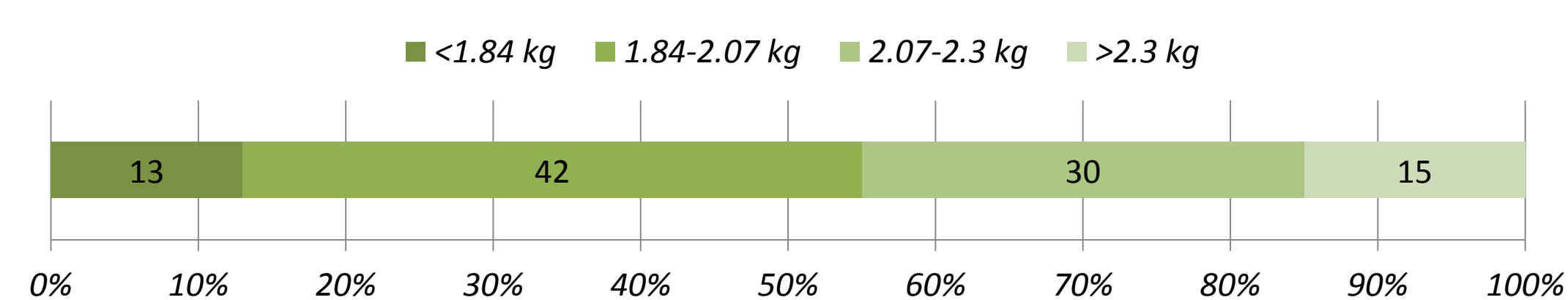
Parameters		Farm capacity			Total (mean±SD)
		Small	Medium	Large	
Fattening duration (days)	M±SD	38.86±2.14	37.81±2.49	38.01±1.86	38.23±2.19
	IV	36.00-45.00	35.00-43.00	35.00-42.00	
Initial weight (g)	M±SD	43.34±3.18	42.70±2.34	42.87±2.34	42.97±2.62
	IV	35.00-48.00	38.00-46.20	38.00-46.20	
Final weight (kg)	M±SD	2.08±0.24	2.05±0.24	2.07±0.16	2.07±0.21
	IV	1.67-2.53	1.61-2.52	1.93-2.61	
Feed conversion ratio	M±SD	1.80±0.07	1.78±0.08	1.78±0.04	1.79±0.06
	IV	1.71-1.98	1.68-1.94	1.69-1.86	

Table 2. Mortality parameters and European production efficiency factor (EPEF) (M – mean, SD – stand. deviation; IV – interval variation)

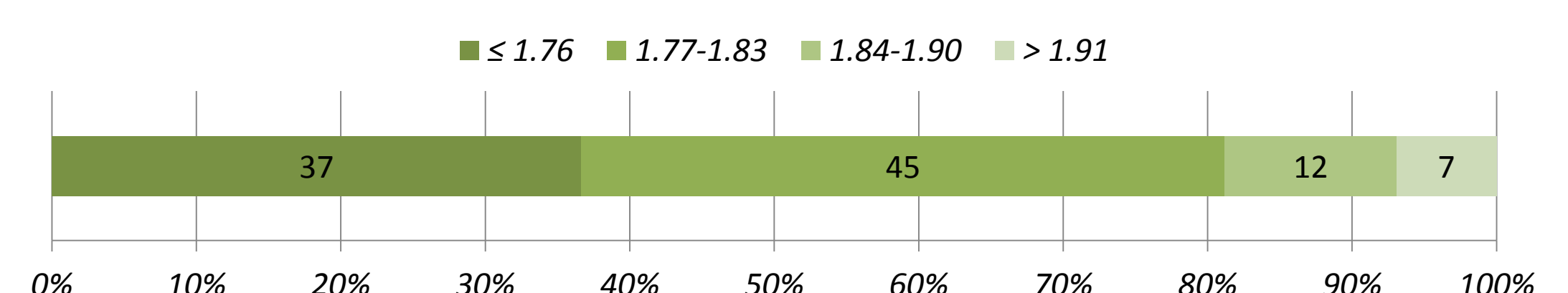
Parameters		Farm capacity			Total (m±SD)
		Small	Medium	Large	
First-week mortality (%)	M±SD	0.53±0.29 ^b	0.59-0.49 ^b	0.98±0.27 ^a	0.71±0.41
	IV	0.10-1.17	0.12-1.61	0.50-1.50	
Total mortality (%)	M±SD	3.32±0.84	2.84±1.14	3.57±0.98	3.24±1.02
	IV	1.72-5.50	1.19-5.85	2.42-6.34	
EPEF	M±SD	287.35-19.95	296.01±18.76	294.46±18.16	292.61±19.03
	IV	241.78-321.69	263.32-338.64	259.30-333.31	

Farm capacity (chicken/round): Small – 6.000, Medium – 10.000, Large – 20.000
ab – Values with different letters in the same row indicate statistically significant differences ($p < 0.05$)

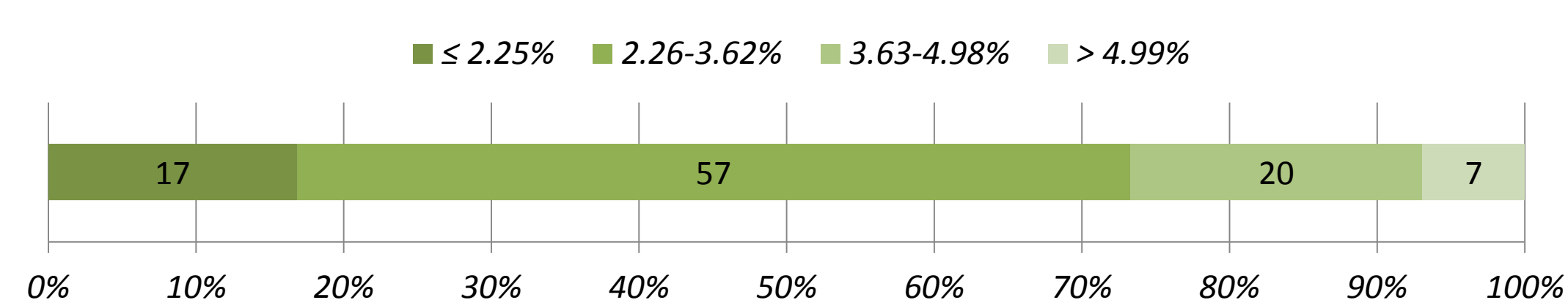
Graph 1 Share of rounds according to final weight



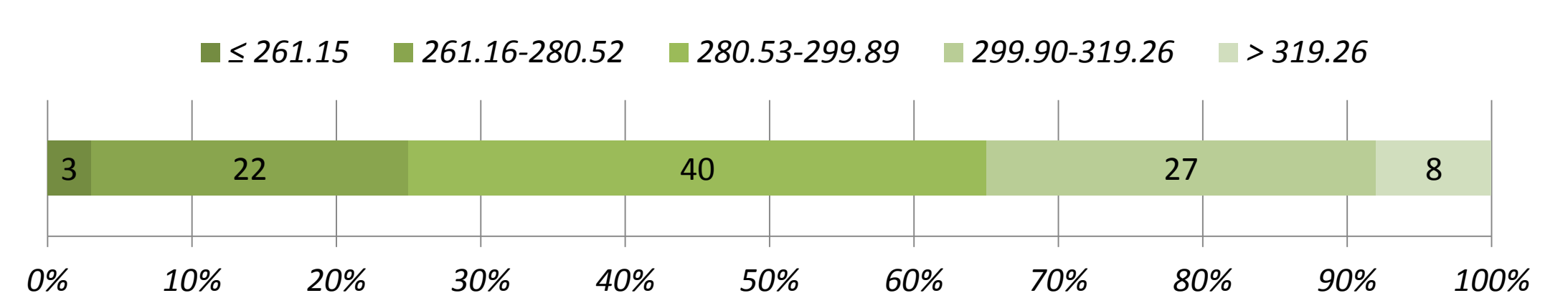
Graph 2 Share of rounds according to feed conversion ratio



Graph 3 Share of rounds according to total mortality



Graph 4 Share of rounds according to value of EPEF



CONCLUSION

Based on the obtained results, it can be concluded that:

- ✓ there is no difference between key production parameters, except first-week mortality, between broiler farms of different capacity,
- ✓ results can be interpreted by similarities in used technologies and a model of cooperation that seeks to ensure uniform input quality and continuous production control.
- ✓ this type of research should be continued on larger number of farms with more identified production factors in order to complete assessment of broiler production in the region of Banja Luka.