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NUMBER OF TOTAL FIRES AND SILO FIRES IN THE SOUTH BAČKA DISTRICT IN THE PERIOD 2014-2018

INTRODUCTION

The paper presents total number of fires, caused deliberately, and by negligence, child negligence, natural phenomenon and unknown cause; as well as silo fires in the South Bačka District, compared to total fires. The causes of fire in grain silos and measures to protect the silo from fire are given. The percentage of silo fires in the total number of fires is small, less than 1%; however, a high proportion of fires of unspecified cause have been observed in relation to the total number of fires, which is a worrisome finding. The paper is a result of the work of students in the professional master study programme Protection Engineering in the VTŠNS, within the course Investigation of causes, phases and consequences of fire, during the school year 2018/2019.

CORE IDEA OF THE RESEARCH

TOTAL NUMBER OF FIRES AND FIRES OF SILOS IN THE SOUTH BAČKA DISTRICT FOR THE PERIOD 2014 - 2018

For more successful fire fighting it is necessary to eliminate their causes. Eliminating the cause of the fire implies knowledge of its emergence, i.e. how and where it appears. Answers to these questions are provided by fire analysis, and on the basis of statistical data on the causes of fire, expert processing is carried out in order to take the necessary preventive measures.

On the basis of the records on fire fighting interventions in the period 2014-2018, in the territory of the South Bačka Administrative District, data for total fires and fires of silos were shown, Table 1. The total number of fires for the observed five years amounted to 9,641, while there were only 10 fires of silos, indicating that the fires of silos are not as present as others. There were most fires in 2017, as many as 2,500 fires [11]. Summer of 2017 was warm and extremely hot, with five heat waves, so it is not surprising that in 2017 there were most fires, although high atmospheric temperatures do not always have to be responsible for the occurrence of fire [12].

When it comes to fires of silos, there is an impression of their insignificant representation in the total number of fires. The facts presented this way could indicate that the preventive measures were implemented to the maximum and that this is the reason for such favourable numbers. However, if the data on the total number of silos in the territory of the South Bačka District were available, so that the participation of those which were burning would be calculated, the numbers would probably not be negligible. It would also be interesting to see the financial outcomes of these fires. Bearing in mind the importance of moisture to microbiological processes in silos, it should be said that 2016, with 6 fires of silos, was rainy in comparison with the reference period 1981-2010, and 2014, with 3 fires of silos, was extremely rainy in relation on the reference period 1961-1990. While the raining amount in a year positively correlates with the fires of silos, it is obvious that it correlates negatively with the total number of fires that were least in the mentioned two years [13].

Table 1 – Fires of silos and total number of fires for the period 2014-2018

Year	Total number of fires	Fires of silos	Fires of silos a year/period [%]
2014	1536	3	0.20
2015	1806	1	0.06
2016	1609	6	0.37
2017	2500	0	0
2018	2190	0	0
Total	9641	10	0.10

Table 2 - Distribution of fire according to the cause for the period 2014-2018

Year	Fire caused by									
	Deliberately	Deliberately [%]	Negligence	Negligence [%]	Child negligence	Child negligence [%]	Natural phenomenon	Natural phenomenon [%]	Undetermined	Undetermined [%]
2014	45	2.82	85	5.53	4	0.26	2	0.13	1404	91.40
2015	62	3.43	127	7.03	2	0.11	2	0.11	1616	89.48
2016	46	2.86	102	6.34	2	0.12	1	0.06	1464	90.99
2017	46	1.84	98	3.92	3	0.12	0	0	2362	94.48
2018	51	2.33	78	3.56	2	0.09	1	0.05	2066	94.34
Total	250	2.59	490	5.08	13	0.13	6	0.06	8912	92.44

When looking at the data on the representation of the method of causing total number of fires, Table 2, it can be noticed that the cause of most numbers of fires was undetermined (even 8,912), then fire caused by negligence (490), deliberately (250), child negligence (13) and natural phenomenon (6). The finding that there is such a large number/percentage of fires of an unknown cause is worrisome. This clearly points to the fact that not enough attention is given to fire problematic, especially fire prevention. The maximum application of currently available knowledge of fire prevention, accompanied by adequate and effective legislation, as well as constant analysis of statistical data from the field, is the only way to improve the current bad situation in this field.

CONCLUSION

The paper presents fires of silos and total number of fires in the South Bačka Administrative District for the period 2014-2018. The reasons for the occurrence of fires of silos have been described and detailed previously. The number of fires of silos in the observed period is negligible in relation to the total number of fires, which would give the impression that the maximum level of prevention and protection has been achieved. However, due to the lack of data on the total number of silos and the resulting material damage, the displayed data should be interpreted responsibly.

A surprisingly large number of fires of undetermined cause commits to greater engagement in the area of preventive, curative, legislative, and primarily permanent education, both of the general population and personnel involved in these jobs. The Higher Education Technical School of Professional Studies in Novi Sad, with 50 years of tradition in this field, and 60 years of existence, sees its place and role here. Especially having in mind their graduates from the master programme in Protection Engineering, from whom not only is it expected to perform their tasks professionally, but also to have a proactive attitude and leadership role in all aspects of protection in the Republic of Serbia and beyond.

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