



GRAIN CROP STUBBLE FIRES IN THE SOUTH BAČKA DISTRICT IN THE PERIOD 2014-2018

INTRODUCTION

The paper presents the participation of grain crop stubble fires in the South Bačka District, compared to total fires in the observed period, the average of which is about 2%. The characteristics of such fires, normative arrangement of special protective measures in this area, as well as the procedure in the event of fire are given. 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

FIRES IN THE SOUTH BAČKA DISTRICT IN THE PERIOD FROM 2014 TO 2018

The results are shown in Table 1.

Table 1 – Review of fires in the period from 2014 to 2018

Year	Total number of fires	Total number of fires in the open space	Share of fires in the open space in total number of fires [%]	Total number of grain crop stubble fires	Share of grain crop stubble fires in total number of fires [%]	Average annual number/percentage, [%] of grain crop stubble fires for the observed period
2014	1536	1116	72.65	48	3.13	34/1.76
2015	1806	1216	67.33	55	3.05	
2016	1609	1009	62.71	13	0.81	
2017	2500	1795	71.80	36	1.44	
2018	2190	1586	72.42	16	0.73	

In the area of the South Bačka District, outdoor fires represent the dominant type of fire, with a percentage share of 63-73%. The share of grain crop stubble fires in the total number of fires for the observed period ranges between 1-3%, or an average of about 2%. The largest number of grain crop stubble fires (55) was recorded in 2015, with extreme heat and average rain [5], while the largest number of fires in open space (1795) and the total number of fires (2500) was recorded in 2017, which was warm and dry [5]. In the territory of the Republic of Serbia, 2018 was the hottest year in the period from 1951 to the present day, while in most parts of Serbia in 2018 there was average rainfall [6], which to some extent correlates with the number of fires in open space (1586) and with the total number of fires (2190), but not with the number of grain crop stubble fires (16). Namely, in addition to weather conditions, other factors also affect the number of grain crop stubble fires: the area under these crops, the application of fire protection measures, the use of modern agricultural machinery (with built-in fire protection measures).

CONCLUSION

The analysis of the grain crop stubble fires on the territory of the South Bačka Administrative District was performed. Precautionary measures for fire protection during grain crop stubble harvest, as well as fire fighting tactics are listed. The causes of the grain crop stubble fires are presented.

The overall number of fires is mostly influenced by the level of implementation of preventive fire protection measures established by legal acts and by-laws in the field of fire protection. The most common cause of grain crop stubble fires is the failure of agricultural machinery involved in harvesting.

In the period from 1985 until now, the number of grain crop stubble fires that have occurred has been relatively small, with a tendency of continuous decline. Reduction in the number of grain crop stubble fires has been contributed by the reduced area planted with grain crop stubble (wheat is no longer a strategic agricultural product), as well as the purchase of new agricultural machinery of foreign production, which mainly has built-in fire protection measures, starting with spark arrester in the exhaust lines to necessarily built-in - installed fire extinguishers. The immeasurable importance in reducing the number of fires and the damage caused by grain crop stubble fires has the work of expert committees for inspection of agricultural machinery that through direct field inspection draw attention to the users to irregularities in equipment from the aspect of fire protection. In addition to pointing out irregularities, the committee provides instructions for removing them. An important aspect of the work of the committee is the training of participants in the harvest, which is carried out during the inspection of mechanization.

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