

Agricultural Insurance in Serbia, Croatia and in the Republic of Srpska

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Abstract

The aim of the paper is to present the structure of agricultural insurance policies in the Republic of Serbia, in the Republic of Croatia, as well as in the Republic Srpska. In the current conditions of severe climate change, agricultural insurance can be considered a necessary agrotechnical measure in plant production, and due to increasing risks, it is also necessary in livestock production. The authors analyze the total number of agricultural insurance policies in the period from 2014 to 2021 and conclude that crop and fruit insurance policies dominate their structure in the Republic of Serbia, as well as in the Republic of Croatia. In the structure of agricultural insurance policies in the Republic Srpska, livestock insurance policies have a dominant role.

Key words: agricultural insurance, agricultural insurance policies, crop and fruit insurance policies, livestock insurance policies

Introduction and literature review

Agricultural insurance is a type of property insurance that combines crop production insurance, livestock insurance and several special subtypes of insurance that cover risks that threaten agricultural production or only certain insurance items (Radović, 2016). Some authors (Žarković, 2016) point out that in recent years the achievements of biotechnology and genetic technology are increasingly important in agriculture, and the risks are

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increasing, and thus the need for insurance is becoming more pronounced. In general, all researchers in this field agree that agricultural insurance "plays a significant role within measures to protect and improve agricultural production" (Sredojević et al., 2010, p. 207).

The importance of agricultural insurance is often considered in the literature from the aspect of risk management. In this sense (Roberts, 2005, p. 93) defines agricultural insurance as "a segment of risk management, and its development depends on the cost-benefit ratio at the level of agricultural holdings or agricultural enterprises, as well as on the potential offer on the insurance market". According to (Mishra, 1995, p. 286) "agricultural insurance, particularly crop insurance, exists in many countries as an institutional response to the current risks accompanying agricultural production". Also, (Chambers & Quiggin, 2004, p. 203) state that "there are several types of risk management available in agriculture, and one of them will almost inevitably be the purchase of an insurance policy in any risk management program".

Crop insurance has been around for almost three centuries. In Europe, crop production insurance against hail risk first appeared in 1719 in Germany (Swiss Re, 2011, p. 1). Today, on a global level, crop production insurance accounts for about 90% of the total agricultural insurance premium (Iturrioz, 2009, p. 11). In modern conditions, crop insurance based on weather indices is increasingly being applied (Hohl, 2019).

There is a widespread opinion in the literature that insurance of crop production is one of the riskiest insurances and therefore insurance protection is provided only for a limited number of risks (Petrevska et al., 2010). The basic insurable risks of crop production include: hail, fire and lightning. The risk of hail is the most prevalent both in terms of frequency and severity of consequences. It is estimated that in the Republic of Serbia, 90% of plant production insurance is hail risk insurance. Additional insurable risks of plant production are storm, flood, spring and autumn frost (Priručnik, 2015, p. 397).

In Serbia, there is a need for the development of the agricultural insurance market. Despite the high subsidies of agricultural insurance premiums, which range from 40% to 70%, agricultural insurance is insufficiently developed. The scope of insured agricultural plots is low, only up to 10% of the total agricultural area is insured. According to research (Vasiljević et al., 2014). the unfavorable structure of agricultural insurance is also observed, so that insurance against one type of risk, most often the

city, dominates, while forms of yield or income insurance are not represented. Therefore, it can be stated that before the responsible creators of agricultural policy is a significant task of creating legal and other conditions for the establishment of modern instruments for risk management in agriculture (Vasiljević et al., 2020).

Until the accession of this country to the European Union in 2013, farmers in the Republic of Croatia had the right to subsidies for agricultural insurance premiums of up to 25% from the state budget and, most often, another 10% from the budget of local governments. The amount of subsidies has been increased since 2018. Subsidies are now paid up to 70% of the insurance premium. 85% of the funds from the budget of the European Union and 15% of the funds from the budget of the Republic of Croatia participate in the payment of these subsidies. According to data from the Ministry of Agriculture of the Republic of Croatia, 9,347 requests from farmers for subsidies were submitted in 2019, which is almost four times more than in 2016 (Ministry of Agriculture, Republic of Croatia). The above confirms that these changes had a favorable impact on the development of agricultural insurance (Radović, 2020).

In the Republic Srpska, up to 50% of the agricultural insurance premium is regressed, but this type of insurance is insufficiently developed. According to research (Radović et al., 2022), the average share of the total agricultural insurance premium in the total non-life insurance premium, in the period from 2014 to 2021, was only 0.6%.

Methodology and data sources

The aim of the paper is to present the structure of agricultural insurance policies in the Republic of Serbia, in the Republic of Croatia, as well as in the Republic Srpska. The paper uses the method of analysis and synthesis, the method of comparison and the method of descriptive statistics. The sources of data are the websites of competent institutions for monitoring agricultural insurance results, as well as the ministries of agriculture in the Republic of Serbia, in the Republic of Croatia, and in the Republic Srpska.

Research results

In order to analyze the structure of agricultural insurance policies in the Republic of Serbia, in the Republic of Croatia, as well as in the Republic Srpska, the total number of agricultural insurance policies is analyzed, that is, the number of crop and fruit insurance policies and the number of

livestock insurance policies. The number of agricultural insurance policies is analyzed in the period from 2014 to 2021.

Table 1. Number of crop and fruit insurance policies 2014-2021

Year	Republic of Serbia Number of crop and fruit insurance policies	Republic of Croatia Number of crop and fruit insurance policies	Republic of Srpska Number of crop and fruit insurance policies
2014	19,768	14,625	53
2015	27,652	13,315	131
2016	28,749	20,596	335
2017	30,346	22,359	245
2018	39,212	39,299	330
2019	45,093	47,666	253
2020	42,603	46,963	288
2021	45,297	50,550	256
Total:	278,720	255,373	1,891

Sources: NBS, HANF-a, AORS. Edited by the authors.

The number of crop and fruit insurance policies in the Republic of Serbia had a growing trend until 2019. Although in 2019 there was a significant increase in the percentage of subsidies, in 2020 the number of crop and fruit insurance policies was reduced by 6% compared to the previous year. The growth trend continued in 2021, when the number of crop and fruit insurance policies increased by 6.3% compared to the previous year (table 1).

The number of crop and fruit insurance policies in the Republic of Croatia recorded significant fluctuations in the analyzed period. The growth trend was recorded from 2015 to 2019. In 2020, a decrease in the number of crop and fruit insurance policies was recorded by 1.5% compared to the previous year. It is noted that in this country, as well as in the Republic of Serbia, the number of crop and fruit insurance policies decreased in 2020, although the percentage of agricultural insurance premium subsidies increased in 2018. The growth trend continued in 2021, when the number of crop and fruit insurance policies increased by 1.1% compared to the previous year (table 1).

The number of crop and fruit insurance policies in the Republic Srpska also recorded significant fluctuations in the analyzed period. The growth

trend was recorded only from 2014 to 2016, from 2017 to 2018 and from 2019 to 2020 (table 1).

Table 2. Share of the number of crop and fruit insurance policies in the total number of agricultural insurance policies 2014-2021

Year	Republic of Serbia Share of the number of crop and fruit insurance policies in the total number of agricultural insurance policies (in %)	Republic of Croatia Share of the number of crop and fruit insurance policies in the total number of agricultural insurance policies (in %)	Republic of Srpska Share of the number of crop and fruit insurance policies in the total number of agricultural insurance policies (in %)
2014	78	88	34
2015	83	89	58
2016	84	94	24
2017	89	94	17
2018	90	96	19
2019	91	93	76
2020	93	92	84
2021	93	91	88
Total:	89	92	32

Sources: NBS, HANF-a, AORS. Edited by the authors.

The average percentage share of the total number of crop and fruit insurance policies in the total number of agricultural insurance policies in the analyzed period was the highest in the Republic of Croatia (92%), followed by the Republic of Serbia (89%), and the lowest in the Republic Srpska (32%). When analyzing individual data, it can be stated that the percentage share of the total number of crop and fruit insurance policies in the Republic of Serbia recorded a growth trend in the entire analyzed period (table 2).

In the Republic of Croatia, the percentage share of the total number of crop and fruit insurance policies had a growing trend from 2014 to 2018, and in the following period it recorded a decline. In the Republic Srpska, the percentage share of the total number of crop and fruit insurance policies had

significant oscillations, but also a pronounced growth trend from 2018, ending in 2021 (table 2).

The total number of livestock insurance policies in the Republic of Serbia recorded significant fluctuations in the analyzed period, but also a marked downward trend from 2019, ending in 2021. The above can be explained by the significant reduction of livestock in this country in recent years. The total number of livestock insurance policies decreased by 40% in 2021 compared to 2014 (table 3).

Table 3. Number of livestock insurance policies 2014-2021

Year	Republic of Serbia Number of livestock insurance policies	Republic of Croatia Number of livestock insurance policies	Republic of Srpska Number of livestock insurance policies
2014	5,466	1,998	103
2015	5,564	1,620	96
2016	5,313	1,385	1,056
2017	3,642	1,367	1,174
2018	4,506	1,813	1,445
2019	4,472	3,688	83
2020	3,376	4,104	53
2021	3,280	4,875	35
Total:	35,619	20,850	4,045

Sources: NBS, HANF-a, AORS. Edited by the authors.

The total number of livestock insurance policies in the Republic of Croatia also recorded significant fluctuations in the analyzed period. The growth trend has been recorded since 2017, ending in 2021. The total number of livestock insurance policies in this country increased by 44% in 2021 compared to 2014 (table 3).

In the Republic Srpska, the largest fluctuations in the total number of livestock insurance policies were recorded in the analyzed period. For example, their number increased in 2016, compared to 2014, by more than ten times. From 2016, until 2018, a growth trend was recorded, and from this year onwards, a marked decline. The total number of livestock insurance policies in the Republic Srpska decreased by 69% in 2021 compared to 2014, i.e. the initial year of the analyzed period (table 3).

Table 4. Share of the number of animal insurance policies in the total number of agricultural insurance policies 2014-2021

Year	Republic of Serbia Share of the number of livestock insurance policies in the total number of agricultural insurance policies (in %)	Republic of Croatia Share of the number of livestock insurance policies in the total number of agricultural insurance policies (in %)	Republic of Srpska Share of the number of livestock insurance policies in the total number of agricultural insurance policies (in %)
2014	22	12	66
2015	17	11	42
2016	16	6	76
2017	11	6	83
2018	10	4	81
2019	9	7	24
2020	7	8	16
2021	7	9	12
Total:	11	8	68

Sources: NBS, HANF-a, AORS. Edited by the authors.

The average percentage share of the total number of livestock insurance policies in the analyzed period was the highest in the Republic Srpska (68%), followed by the Republic of Serbia (11%), and the lowest in the Republic of Croatia (8%). When analyzing individual data, it can be stated that the percentage share of the total number of livestock insurance policies in the Republic of Serbia recorded a downward trend in the entire analyzed period (table 4).

In the Republic of Croatia, the percentage share of the total number of livestock insurance policies had a downward trend from 2014 to 2018, and in the following period it recorded an increase. In the Republic Srpska, the percentage share of the total number of livestock insurance policies had significant oscillations, but also a marked downward trend from 2018, ending in 2021 (table 4).

Table 5. Total number of agricultural insurance policies 2014-2021

Year	Republic of Serbia Total number of agricultural insurance policies	Republic of Croatia Total number of agricultural insurance policies	Republic of Srpska Total number of agricultural insurance policies
2014	25,234	16,623	156
2015	33,216	14,935	227
2016	34,062	21,981	1,391
2017	33,988	23,726	1,419
2018	43,718	41,112	1,775
2019	49,565	51,354	336
2020	45,979	51,067	341
2021	48,577	55,425	291
Total:	314,339	276,223	5,936

Sources: NBS, HANF-a, AORS. Edited by the authors.

The total number of agricultural insurance policies in the Republic of Serbia in the analyzed period was 314,339, in the Republic of Croatia 276,223, and in the Republic Srpska 5,936 (table 5).

Conclusion

Based on the conducted research, it can be concluded that the insurance of plant production is more common in the Republic of Serbia and the Republic of Croatia, while in the Republic Srpska the insurance of livestock production is more common. Specifically, in the structure of the total number of agricultural insurance policies in the analyzed period from 2014, and ending with 2021, in the Republic of Serbia, as well as in the Republic of Croatia, crop and fruit insurance policies had a dominant share. In the structure of the total number of agricultural insurance policies in the Republic Srpska, in the analyzed period, livestock insurance policies had a dominant share.

It can also be stated that agricultural insurance is not sufficiently developed considering the existence of agricultural insurance premium subsidies. The subsidies amount to: in the Republic of Serbia from 40% to 70%, in the Republic of Croatia up to 70%, and in the Republic Srpska up to 50%. However, even the mentioned subsidies do not sufficiently influence the increase in demand for agricultural insurance. The number of crop and

fruit insurance policies in the Republic of Serbia and the Republic of Croatia is considerable, but it could be much higher, taking into account the total number of registered agricultural holdings in both countries. Also, the same interpretation applies to the number of livestock insurance policies in the Republic Srpska. Therefore, there is a need for continuous education of potential policyholders about the importance of agricultural insurance.

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