

# AGRICULTURAL INSURANCE: CURRENT DEVELOPMENT IN SERBIA AND MONTENEGRO

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## Abstract

*Plant production is exposed to numerous risks from unfavorable weather conditions, especially in the current period, which is characterized by increasingly pronounced climate changes. Livestock production is also exposed to risks and they primarily relate to animal diseases and accidents. Insurance is the most common system for risk management in agricultural production. The aim of the paper is to analyze the current development of agricultural insurance in the Republic of Serbia and the Republic of Montenegro. The authors analyze the offer on the agricultural insurance market as well as the support of the state, through regressing the premium, as significant prerequisites for the development of agricultural insurance. On the basis of the research carried out, the authors give recommendations for the development perspectives of agricultural insurance, and thus agriculture, as a significant economic activity for both of the countries.*

**Key words:** *risks of agricultural production, agricultural insurance, development, Serbia, Montenegro*

## Introduction

The importance of agricultural insurance is that it provides economic protection to the insured - agricultural producers from harmful effects and disruptions caused by the occurrence of the insured event, that is, the realization of the risk covered by the insurance. Agricultural insurance “plays a significant role in measures for the protection and improvement of agricultural production” (Sredojević et al, 2010, p. 207). According to

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(Mishra, 1995) “agricultural insurance, particularly crop insurance, exists in many countries as an institutional response to the current risks accompanying agricultural production” (Mishra, 1995, p. 86). The authors (Chambers & Quiggin) state that there are several types of risk management in agriculture available to agricultural subjects, and one of them will almost inevitably be the purchase of an insurance policy in every risk management program (Chambers & Quiggin, 2004, p. 203).

Agricultural insurance is most often highlighted as the most widespread way to manage risks. In this sense, Roberts 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” (Roberts, 2005, p. 93). Different classifications of risks associated with agricultural production are present in the literature. According to (Hardaker et al.) risks can be divided into: production or yield risks, financial, institutional, human and property risks (Hardaker et al, 1997, p. 33). Classification of three groups of risks that threaten agricultural production is prevailing in literature. These are: natural, social and economic risks (Ray, 2013, p. 10).

Agricultural production in modern conditions is increasingly threatened by extreme natural conditions, which are characterized by high temperatures or heavy rainfall, and their cause is increasingly pronounced climate changes. Intensive agricultural production is one of the causes of current climate changes, as well as uncontrolled exploitation of other natural resources (Njegomir et al, 2017). With the intensification of production, greenhouse gas emissions related to agriculture, have doubled in the last 50 years, and projections predict a further increase (Hohl, 2019). According to the opinion of the Food and Agriculture Organization (FAO), a more sustainable approach to agriculture is needed, in order to use land, water and resources more efficiently, and at the same time increase farmers’ incomes, as well as food security (FAO, 2016). In particular, agricultural production faces more demanding tasks, given that, according to FAO projections, agriculture will have to produce almost 50% more food, feed and biofuels by 2050 compared to 2012 (FAO, 2016). The United Nations, recognizing the complexity and importance of the problem of climate change, adopted the document “Sustainable Development Goals”, where under goal number 13, they called on countries to take urgent measures to combat climate change (FAO, 2017). Climate change and future economic development are the main factors affecting supply and demand for agricultural products, as well as food security (Hohl, 2019).

## **Methodology**

The aim of the paper is to analyze the current development of agricultural insurance in the Republic of Serbia and the Republic of Montenegro. For this purpose, the representation of economic protection of agricultural production among agricultural farms is analyzed, bearing in mind that they are the most numerous in the structure of agricultural entities in both countries. Also, the offer on the agricultural insurance market is analyzed, as well as the state's support for the development of agricultural insurance, which is realized through regression of the agricultural insurance premium. The paper uses descriptive, statistical, as well as the method of analysis and synthesis. The sources of data used in the research are legislative regulations, data from the Ministry of agriculture, as well as conditions for agricultural insurance of insurance companies that operate on the agricultural insurance market in the Republic of Serbia and in the Republic of Montenegro.

## **Research results**

The research analyzes the offer of insurance companies that operate on the territory of the Republic of Serbia, that is, the Republic of Montenegro, in terms of coverage of the most significant risks that endanger plant and livestock production. Also, the amount allocated from the agricultural budget, for agricultural insurance premium regressions in the entire period since these incentives were introduced, is analyzed, as well as the number of agricultural farms that have realized the right to them in the last five years.

### **Current situation in Serbia**

There is a satisfactory offer on the agricultural insurance market in terms of coverage of basic and supplementary risks of crop and livestock production (Radović, 2018a). For the purpose of “the development of agricultural insurance in the Republic of Serbia, it is necessary to have a greater offer of insurance against the risk of drought and loss of income on the market” (Radović, 2016, p. 181). Livestock insurance policies can provide coverage for basic risks, namely: death due to disease and accident, as well as slaughter out of necessity. However, for the development of this type of insurance an increase in the livestock fund is required (Radović, 2018b).

The participation of the agricultural insurance premium recourse in the agricultural budget, in the entire period of existence of this measure, is shown in table number 1. Based on the data presented, it can be stated that the specified participation was above 1% only in a few years, the largest was 1.25 % in 2020, and that the average participation was only 0.65%.

**Table 1.** *Participation of agricultural insurance premium recourse in the agricultural budget in the period 2006-2021.*

Year	Agrarian budget (in millions of RSD)	Funds for agricultural insurance premium recourses (in millions of RSD)	Share of funds for agricultural insurance premium recourses in the agricultural budget (in %)
2006	27,543.9	12	0.04
2007	26,095.8	35	0.13
2008	32,895.4	120	0.36
2009	26,690.4	62	0.23
2010	31,577.9	77	0.24
2011	33,676.0	171	0.51
2012	40,876.7	267	0.65
2013	44,699.5	335	0.75
2014	45,427.2	455	1.00
2015	45,308.2	476	1.05
2016	40,465.7	450	1.11
2017	43,787.6	450	1.03
2018	44,109.2	150	0.34
2019	54,614.7	600	1.10
2020	56,067.9	700	1.25
2021	60,271.3	327	0.54
Average share of agricultural insurance premium recourse in the agricultural budget:			0.65

Source: RS Budget Law 2006-2021; Regulations 2006-2021. Author's calculation.

In Serbia, agricultural insurance premiums have been paid from the agricultural budget since 2006. In the current period, recourses amount to 40% of the value of the insurance premium, and up to 45% for agricultural holdings located in areas that are considered to have difficult conditions for agricultural production. Agricultural farms located in the area of five administrative districts (Moravički, Kolubarski, Podunavski, Šumadijski and Zlatiborski), for which it is considered that in their area agricultural production is the most threatened by bad weather, have the right to recourses in the value of up to

70% of the agricultural insurance premium. Agricultural insurance premiums paid from the budget of local governments can be cumulatively added to the stated percentages of recourse, so that in some municipalities the recourses fully cover the premium - the price of agricultural insurance. Agricultural entities, in accordance with current regulations, can collect a maximum of 2.5 million dinars per year based on recourse to the agricultural insurance premium. The number of registered agricultural farms, which in the period 2016-2020 used the right to recourse to agricultural insurance premiums is shown in table number 2.

**Table 2.** *The number of agricultural farms that exercised the right to recourse in the period 2016-2020.*

Year	Number of agricultural farms
2016	20,112
2017	22,171
2018	22,475
2019	16,303
2020	28,100

*Source:* Directorate for Agrarian Payments of the Ministry of Agriculture, Forestry and Water Management of the RS

There are a total of 301,028 registered agricultural farms in Serbia, according to the last published statistical data (Group of authors, 2019). On the basis of the above, it can be concluded that in 2020, only 9.3% of the total number of agricultural farms exercised the right to recourse to agricultural insurance premiums, i.e. insured their production.

### **Current situation in Montenegro**

By analyzing the agricultural insurance conditions available on the websites of companies operating on the insurance market in Montenegro, it can be concluded that the current offer includes coverage against basic as well as some additional risks.

**Table 3.** *Participation of agricultural insurance premium recourse in the agricultural budget in the period 2008-2021.*

Year	Agrarian budget (in thousands of euros)	Funds for agricultural insurance premium recourses (in thousands of euros)	Share of funds for agricultural insurance premium recourses in the agricultural budget (in %)
2008	14,750	100	0.7
2009	19,750	100	0.5
2010	18,671	20	0.1
2011	15,736	10	0.1
2012	14,580	360	2.5
2013	14,143	300	2.1
2014	14,030	200	1.4
2015	14,975	202	1.3
2016	16,219	200	1.2
2017	16,900	80	0.5
2018	18,788	80	0.4
2019	22,318	150	0.7
2020	24,405	200	0.8
2021	27,162	200	0.7
Average share of agricultural insurance premium recourse in the agricultural budget:			0.9

Source: Budget Law of the Republic of Montenegro, 2008-2021. Author's calculation.

Economic protection of agricultural production with financial incentives from the state can be realized in Montenegro since 2008. In the initial year, the subsidies amounted to 30% of the total value of the paid insurance premium. Since 2009, these subsidies have been increased and since then they are paid in the amount of up to 50% of the value of the insurance policy (<https://wapi.gov.me>). Based on the data shown in table number 3, it can be stated that the average share of funds for agricultural insurance premium recourses, in the entire period of their existence so far, was less than 1%.

Crop production insurance provides coverage against basic risks, namely: risk of hail, fire, excessive precipitation, and lightning. Crops and fruits can be insured against additional risks, namely: from spring and autumn frost, storm and flood. In the case of crop and fruit insurance, it is necessary that the agricultural holding fulfills all agro-technical measures and principles of good agricultural practice during production, as well as that it is a registered

agricultural producer. Also, there is a possibility to insure against basic, as well as some additional risks in livestock production. These risks are: death, forced slaughter, diseases and animal accidents. In the case of animal insurance, it is necessary for the agricultural farm to undertake all necessary veterinary, sanitary (hygienic) and zootechnical measures, that is, to organize regular veterinary examinations and to fulfill all prescribed measures, for the keeping and use of animals.

In addition to subsidies of the state, some local governments allocate funds from their budgets for the purpose of developing agricultural insurance. For example, the Municipality of Pljevlja approves subsidies in the amount of up to 25% of the value of the insurance policy (<https://pljevlja.me>). Despite the financial support of the state, a small number of agricultural producers insure their production. In 2012, only two, and in 2013 nine agricultural insurance policies were concluded. According to the data of the Ministry of Agriculture, Forestry and Water Management, in 2017, 74 agricultural farms insured their production, in 2018 there were 262, in 2019 the number of insured agricultural farms increased to 313, and in 2020 there were fewer of them, 297 of agricultural producers ensured its production (<https://mina.news>). According to the latest available data, there are a total of 14,831 registered agricultural farms in Montenegro (<https://www.gov.me>). This means that in 2019, when the largest number of insured agricultural farms was recorded, they accounted for only 2.1% of the total number of registered agricultural farms in this country.

## **Conclusion**

Agricultural insurance, although in the current conditions of increasingly pronounced climate changes can be considered a necessary agrotechnical measure, it is insufficiently represented in both Serbia and Montenegro. Based on the results of the realized research, it can be concluded that there are subsidies in both countries for the purpose of developing agricultural insurance. Also, insurance companies' offers on the market cover basic and supplementary risks of crop and livestock production. The reason for insufficient application of the available economic protection of agricultural production is the lack of interest and lack of information among agricultural producers. Often the reason is the insured's lack of trust in the objectivity of the insurer, that is, negative experiences in working with them. In order to develop agricultural insurance, continuous cooperation of all three relevant

subjects (insurance companies, agricultural producers and the relevant ministry) is necessary, in order to overcome current problems.

In order to develop agricultural insurance both in the Republic of Serbia and in the Republic of Montenegro, it is necessary to draw up a Strategy for the Protection against Climate Change in Agriculture, which developed countries have adopted a long time ago. An important element of this strategy is the economy of climate change, in which insurance in agriculture plays an important role.

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