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## INSURANCE IN AGRICULTURE

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### Summary

*Damage in agricultural production can be crucial for the economy of a state, especially in countries where agricultural production prevails in the gross national income, as it is the case with Serbia. However, it is equally important that our agricultural producers manage incomes and expenditures in an efficient manner and optimize profit per surface unit, which is the basis of their business. Insurance plays an important part in the protection of the income statement of every agricultural producer as insurance costs are at the level of 1.5% to 2% on average of the production value, i.e. they are very low and saving on insurance could lead to the loss of the total yield and consequently total profit. However, agricultural insurance in Serbia is not developed enough. The state's attempt to boost insurance development amounts to insurance subsidies, which, in the period of the implementation of this regulation, i.e. since 2006, has raised awareness of the need of such a type of protection of agricultural producers.*

**Key words:** *agriculture, insurance, subsidies*

**JEL:** *K13, Q14*

### Introduction

People are not prone to taking risk and prefer certainty than uncertain consumption levels; essentially they prefer more certain outcomes<sup>4</sup>. This does not mean that risk should be avoided at all costs, but only that it should be considered when taking decisions<sup>5</sup>. From the point of view of an agricultural producer, insurance represents a method of the transfer of risk from themselves to an insurance company, in exchange for a premium in a certain amount. Historically, agricultural insurance has evolved from insurance of a town and against fire. In time, the scope of insurance coverage expanded risk-wise and the agricultural insurance premium at the global level eventually reached 18.5 billion

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4 Samuelson, P. A., Nordhaus, V. D. (2009): *Ekonomija*, Mate, Belgrade, pg. 209.

5 Njegomir, V. (2011): *Poljoprivredna proizvodnja i rizici*, Osiguranje Zagreb, no. 6, pg. 59.

dollars in 2008.<sup>6</sup> Insurance of agricultural crops and animals in Serbia is mostly used by professional agricultural producers and agricultural companies. Unfortunately, a very high percentage of small agricultural producers, especially those working on land of small surface, are not insured, so their income largely depends on the whims of nature. It is believed that there are almost two million people in Serbia living on agriculture and that there are 450,000 registered agricultural estates, only several percent of which are insured, according to assessments. Insurers emphasise that big agricultural companies are insured every year, but not always and not all of the same risks. Only estimates are used when it comes to small companies which show that crops and animals are insured by only five to ten percent of small farms. Given the importance of agriculture as an economic sector of society, it is of great importance to fairly perform classification of obligations between the parties, but the actions of dealing insurers to insured consumers that may have a significant impact on the decision regarding the purchase of products or insurance.<sup>7</sup> The European Union has adopted Directive 2005/29/EC of the European Parliament and the Council, which regulates the behaviour mentioned above. In agriculture insurance, brokers have an important role in insurance given the distribution of the settlements, and a limited number of branches of insurers (mainly in major towns in Serbia). It is important to note that, unlike other brokers, an insurance broker must primarily be able to make risk analysis and the concept of insurance for the insured taking into account the risks to which it is exposed.<sup>8</sup> Perhaps the situation in terms of more accurate data will be known after a detailed census of agriculture, which was conducted in 2012. The subject of research is dual. In the first part of the paper, the analyses refer to types of insurance in agriculture, their characteristics and presence in practice of insurance companies in the Republic of Serbia. In addition, normative framework and the system of government subsidies are presented the purpose of which is to influence upon wider presence of insurance in agriculture. The initial premise of the research is that the presence of insurance of agriculture is in disproportion in relation to the economic importance of agriculture as economic activity in Serbia. The hypothesis is that further development of insurance in agriculture of Serbia is not possible without the support of the State through the system of subsidies, that the decree-level regulations have improved the existing conditions, but they have not made producers interested to a higher degree in the institution of insurance. The research has mainly theoretical character. The methods that were used are characteristic of economic and legal sciences. The methods of descriptive statistics were used for verification of the part of the hypothesis about erratic and insufficient filing of applications for subsidies (on the data of the ministry responsible for agriculture about filed applications and paid subsidies for the period from 2006 to 2012).

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6 See: *Sigma*, 1/2009, Swiss Re, Zurich, 2009.

7 More precise in - Slavnić, J. (2006): *Nekorektna trgovačka praksa i oblast osiguranja*, Pravni život, Beograd, no. 11/2006, pg. 515.

8 On the work of agents and the legal relationship between an agent and insurer, more in - Ivanjko, Š. (2012): *Pravni odnos između posrednika u osiguranju i društva za osiguranje*, Pravni život, Beograd, no. 11, pg. 401-414. Also in - Musić, F. (2003): *Pasivna prodaja polisa osiguranja*, Svijet osiguranja, Zagreb, no. 1, pg.63.

In practice of insurance companies in Serbia, we will face several types of insurance in agriculture. These are: crop insurance, animal insurance, insurance against risks of drought and crop insurance against excess rainfall. We will point out the features of these insurances.

### Crop insurance

Crop insurance premium accounts for only 2.04% of the total of the concluded non-life insurance in our country in 2011. Given the much higher share of agriculture in total social product of Serbia<sup>9</sup>, it is obvious that the coverage of insurance in this sector is significantly lower than the actual needs and opportunities. We shall set forth the crop insurance based on the General Conditions for crop insurance.<sup>10</sup> Since there are many special conditions in addition to General Conditions, we remind to the relevant principle for the specific conditions to be directly applied, but general conditions are applied on anything not regulated by them, where special ones must be in compliance with the General Conditions. The subject in this sector of insurance can be all crops, including stubble, sub-crops, cover crops, perennial crops, ornamental plants; fruit, vine and forest seedlings; vegetable seedlings and other crops; young forest crops to six years of age; plaiting willow, reed, poplar.<sup>11</sup> The rule is that the above crops which were already damaged by risks against which the insurance is done cannot be insured. Accordingly, if it is determined after the conclusion of the contract that the insured crop or fruit was damaged from risks covered by this insurance before the conclusion of the contract, the insurer has the right to request cancellation of the contract. There are basic and additional risks in the sector of crop insurance. The basic risks are hail, fire and lightning, and the additional risks in all crops are storms, floods and spring frost, while it being autumn frost in seed corn. In this sector the general rule that the insurance also covers the additional risks is applied as well, if the supplementary insurance is agreed and an additional premium is paid. It is determined that the insurance against additional risks can be concluded for crops of social sector, and if a so-called collective insurance is concluded

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9 Total non-life insurance premium in 2011 amounted to 47,321,290,000.00 RSD. A total of 3.710.890 non-life insurances has been concluded. When it comes to crop insurance, 11.548 insurances has been concluded in that year, and the premium amounted to 968,926,000.00 or just 2.04%. When it comes to the damage, a total of 4.244 crop damage was reported in 2011, of which 1.179 were rejected. On behalf of the remaining damage a total of 673.4 million RSD was calculated. See the results of operations of insurance companies in 2011 on the website of the National Bank of Serbia.

10 *Opšti uslovi za osiguranje useva i plodova*, DDOR Novi Sad a.d., Novi Sad, 1996. In addition to general conditions there are special conditions such as Special conditions for crop insurance against storm, for insurance against flood, against spring frost, Special conditions for corn insurance against the loss of seed quality due to autumn frost, for crop insurance against the quality loss, for crop insurance in greenhouses, for insurance of trees, fruit trees and grapevines – young plantations until entering into race, for crop insurance after harvesting, or picking, for fruits insurance against the loss of quantity and quality, for insurance of table grapes against the loss of quantity and quality, etc.

11 On the agriculture insurance, see more in – Mrkšić, D., Petrović, Z. (2004): *Pravo osiguranja*, Fakultet za poslovno pravo, Beograd, pg. 192-199.

then crops of individual farmers can also be covered. Here the notion of collective means an insurance covering at least 50% of area with a specific crop or at least 30 households with all areas with a certain crop in the territory of a settlement. Also, a rule that insurance against additional risks can be concluded only if insurance against basic risks is previously concluded is applied, except if the insured crop, or plant, is protected by web against hail. In order to make a selection, the areas which will be covered by insurance that is particularly undesirable in this insurance sector (e.g. based on years of observation, lots that are more or less very rarely affected by the influence of certain risk can be accurately spotted) it is provided that the insured is obliged to insure all areas with crops and fruits of the same kind. However, if he still does not do so, insurance indemnity will be paid in proportion between the insured and the actual area under these crops and fruits. Analogously, when the insurance contract is concluded by the number of trees or vines, the insurance indemnity is paid in proportion between the insured and the actual number of trees and vines. In accordance with the general principle set out in the Law of Obligations that the policyholder shall report the circumstances relevant to the assessment of risk, or that he shall notify the insurer of the risk changes, if during the period of insurance there is a change in the structure of the insured areas, the policyholder is obliged to, without delay, inform the insurer. There are some specifics in this insurance sector in the procedure of determining the process damage. Given the stage in which there was a damage of insured crops or fruits, there are two types of assessment – single and repeated assessments. It is the rule that damage assessment carried out at a time has the character of a final assessment, provided that it is carried out in cases where the damage occurs at the stage of maturation or immediately before maturation. The so-called repeated assessment is carried out in cases where the damage occurs before the maturation stage and it is not possible to immediately determine its ultimate severity. When conducting a repeated assessment, the rule is that the previous estimate has a character of a pre-estimate or an inquest, and the final examination is the final assessment. There are often damage assessments done by expertise in this insurance sector, where the rule is that each party shall appoint in writing its expert within five days from the date of the assessment, and in cases where the insured or his representative was not present at the assessment, in the course of three days from the date of assessment communication. Therefore, the damage assessment shall not be conducted by expertise immediately, nor does it replace the assessment process conducted by the insurer, but it is conducted subsequently, and when practically there is no compliance of the insurer and the insured of the results of the assessment conducted by the insurer.

It is important to point out that according to the general conditions for crop insurance we set out, the value of insured crops or fruits is calculated in principle so that the expected return is calculated at market or protection rates determined by the competent state authorities, and for the agreed production the prices that are agreed with the production organiser are applied. The rule is also for crops whose prices are determined at the market or the protection price is not provided, a calculation is done at prices that are agreed and registered in the policy. Respecting the principle of equivalence, in terms we set out, a possibility that the policyholder may request a reduction of the insurance amount is provided if the actual value of the insured crop or fruit of the same kind is less than the amount insured.

According to the above principle, since it reduces the insurance amount, and with it the upper limit of liability of insurer, the premium amount is also reduced as a key obligation of the policyholder, for the period from the date of written request to the insurer for reduction of the insurance amount, until the expiration of insurance period. Conversely, the policyholder has the right to increase the insurance amount, if during the period of insurance the actual value of insured crops and fruits increases, provided that the insured event did not already occur. Of course, the insurance premium then also increases because the insurance amount increases. Consistent with the principle that the premium is paid only for a risk to be borne, the rule is provided that in addition to the concluded insurance, if some of the insured crops is not sown or planted, and therefore the insurer did not bear any risk, the policyholder is not required to pay the premium for these crops.

The principle of the premium indivisibility has been established with crop insurance, which is reflected in the rule that if the crop or fruit is simultaneously insured against several risks, and during the insurance there is a realisation of any of the risks insured, the insurer keeps the entire premium for all risks. Given the dynamics of the relationship between the insurer and the policyholder and frequent changes within the period covered by insurance, it is provided that the insurer has the right to, during the insurance period, perform a so-called risk audit, i.e. an overview of the condition of insured crop, which he performs together with the policyholder. It is interesting that even in the case of crop insurance a self-insured retention can be agreed. Therefore, if it is agreed that the insured shall bear a portion of the damage, which is called the agreed self-insured retention, if the insured event occurs, the damages indemnity will be paid not to include that portion of the damage that was in the amount of the agreed self-insured retention. In other words, even with crop insurance one of the most important insurance categories is used – the franchise.

With the crop insurance, it is also provided that the insurer reimburses the costs of insurance which are caused by the attempt of the insured to remove the immediate threat of occurrence of the insured event, and an attempt to limit its harmful consequences. The condition for this is that the insurer agreed or arranged with the insured for the certain measures to be taken. In the sector of crop insurance, it is essential to explain some elements that are significant in practice.<sup>12</sup> It is important to emphasise that the tariffing in this sector is made by culture sensitivity classes. Thus, all cultures are classified, with respect to sensitivity to risk, in different classes (e.g. against the risk of hail in 10 sensitivity classes, against the risk of storms in 10 sensitivity classes, against the risk of floods in 3 sensitivity classes, against the risk of spring frost in 4 sensitivity classes, etc.).

On the other hand, classification of areas is done in classes of risks depending on the vulnerability and exposure to risk. So some areas and territorial units are classified – against the risk of hail; against the risk of storm; against the risk of flood; against the risk of spring frost in 10 sensitivity classes. Classification of territorial units in risk classes is made based on their exposure to certain risks, or on the basis of the so-called technical results

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12 Presentation based on - *Tarifa premije za osiguranje useva i plodova*, Osiguranje useva i plodova, DDOR Novi Sad, Novi Sad, 1990, pg. 50–53.



achieved in insurance of crops and fruits against certain risks. As a basis for classification the technical result (the ratio of paid damages and technical premium) is taken, achieved in the last ten years ending with the year in which the classification is done (the so-called revalued cumulative technical result of territorial unit).

As we have already noted, the franchise also finds its application in this sector of insurance. Hence, a so-called integrated franchise of 5% is already implemented in premium rates (there are exceptions). Policy excess is determined as a percentage of the amount of damages, by reduction of insurance premium for as much as percent the agreed franchise amounts (maximum 50%). However, the policy excess can be arranged in a certain percentage of the damaged crop insurance amount (e.g. insurance premium is reduced by 15% if the franchise of 10% is agreed, and so on).

In order to encourage the conclusion of insurance in this industry, discounts are given for group insurance of agricultural crops in the private sector, for concluded contracts on long-term insurance, for insurance of other crop in the same area after the insurance of first crop.<sup>13</sup>

### **Animal insurance**

In a totally concluded premium of non-life insurances in Serbia in 2011, the animal insurance covers only 0.56%, which is considerably less than the share of livestock in total GDP and of course far from the real needs for animal insurance.<sup>14</sup>

The significance of animal insurance in modern animal husbandry is also confirmed by the theoretical position we cite. According to this position the insurance, as an institution of economic protection, has a significant role in livestock production, given that it organises funds raise for insurance funds and performs compensation of damage caused within the covered risks and insurance amounts, thus representing the factor of safety in production, especially since the subject of insurance are living beings, then it encourages implementation of preventive and repressive measures, and in the case of insurance with included health care it contributes its scope and quality. On the same view, this type of insurance also encourages cooperative forms of production and increase of livestock.<sup>15</sup>

Animal insurance is regulated mainly by General and Special conditions under which we will analyse this type of insurance. As in other cases where there are General conditions and

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13 See in: Bubić, J., Hajnrih, J. (2012): The analyses business performances of agricultural enterprises in Vojvodina during the current crisis, *Economics of Agriculture*, Vol. 59, no. 2/2012, pg. 177-183.

14 In 2011, only 1.487 insurances were concluded, and the written premium was 269,000,000.00 RSD. As for the damage, the situation with animals is as follows: 3.131 damages were reported (more than double the number of policies because several animals were insured by a single policy), 472 damages were rejected. Total of 167.14 million RSD was calculated on behalf of recognised damages.

15 Katrinka, Z. (1996): *Osiguranje životinja*, Priručnik za praksu osiguranja i reosiguranja, DDOR Novi Sad, Novi Sad, pg. 316.

Special conditions, Special conditions are primarily applied, but the General conditions are applied too, when relations are not regulated by the Special conditions, and Special conditions must be in accordance with the General conditions.

In accordance with the General conditions, the subject of this insurance can be healthy domestic animals such as: ungulates – cows and bulls, sheep, pigs, provided they meet the age requirements. Thereby the subject of insurance cannot be diseased animals or animals suspected of being diseased; exhausted, stunted, blind and animals in poor condition; animals kept in poor hygienic conditions as well as other animal species, except for those the insurance under special conditions was provided for. The insured is obliged to pay compensation for damages resulting from the death of animal that is insured or an accident; involuntary slaughter due to illness or an accident (so-called involuntary slaughter of necessity); involuntary slaughter for economic reasons. In doing so, the insurer is not obliged to compensate for the damage resulting from the involuntary slaughter for economic reasons if the diseases were caused by prolonged, excessive and unreasonable exploitation of animals or because the animals were not treated on time or even at all. It is important to emphasise that the risks of treatment may be covered by insurance, provided they are specifically contracted, which must be stated in the policy or in a separate supplementary contract.

We also state what is considered an accident in terms of the Conditions we state. It is every sudden, independent of the will of the insured event, which acts from the outside and suddenly on the insured animal (such as fire, lightning, flood, storm, etc.) and has as a consequence its disease, treatment, involuntary slaughter, involuntary kill or death.

With animal insurance, the institute of waiting period is also used which means the period within which the insurer is not obliged to pay damages, even though the insurance contract is concluded. Thus, for example, it can be agreed that the insurer will be required to pay damages due to death, involuntary slaughter of an insured animal, but only after the expiration of 14 days from the time of contract signing.

The place of insurance is important, since the insurance coverage is given until the insured animals are in a location designated on the insurance policy. However, the animals are also insured during their time on land owned by the insured, at nearby fairs, as well as during oestrus or during transportation to that place or from it.

The insurance will cease to exist after the alienation of the insured animal is done, at the time in which the insured ceases to keep the animal. However, if the ownership of the insured animals, on any basis other than sales is transferred to a third party, then the contract continues to exist, but between the insurer and legal successor of the insured, all under the condition that the premium is paid. There is also a possibility to introduce another animal as an insurance subject rather than an alienated animal, provided that it meets all the insurance requirements.

Under the Conditions we explain, it is regulated that in the case when an insured animal dies, gets slaughtered or killed before the start of the liability of the insured or it is found that the policyholder has incorrectly reported the age of the insured animal (or its age is



over the limit taken by the insurer in the insurance of certain animals) during the signing of contract, the insurance contract becomes null and the paid premium is then returned to the policyholder. However, if the insured animal is dead, slaughtered or killed after the start of effect of insurance contract for the insurer (after the expiration of the waiting period), then the insurer is entitled to the entire premium amount for the agreed insurance period.

In accordance with the principle that only the premium corresponding to the seriousness of the risk may be charged or retained, it is a rule that if the insured animal is dead, slaughtered or killed after the start of the insurer's liability from the risks not covered by the insurance, then the policyholder gets the premium amount back for unused duration of insurance time. In this insurance sector too, the insured is required to take provided, contractual and all other measures to prevent the occurrence of insured event, or when the insured event occurs, he is required to do everything in his power to limit its harmful consequences. The insurer is, of course, required to compensate the insured for the costs of losses, as well as other damage caused by reasonable attempt to eliminate an imminent danger of occurrence of the insured event. It is also a rule that were the insured fails to fulfil his obligation to prevent the occurrence of the insured event, or to prevent limitations of its harmful consequences, then the obligation of the insured will decrease by as much as a greater damage was caused because of this failure.

It is crucial to look at the way in which the amount of insurance is determined. The basic rule under the Conditions we explain is that the animals are insured to an amount that is agreed with the insured, therefore an amount of insurance is determined by mutual agreement. In doing so, the amount of insurance can be at highest the actual value of the animal at the time of conclusion of the contract, and for the young and fattening animals the value it will achieve by the end of the fattening period, or until the end of insurance period. In doing so, it is determined that the actual value of the animal is a product of its weight and market price on the date of conclusion of the contract, or on the day of damage calculation (there is a possibility of a different contract). Animals which are kept in packs, and have an equal value, can be insured to an average insurance amount, which is required primarily for reasons of convenience or expediency.

In order not to make a selection of risks, or the selection of animals that are insured, and especially abuse, it is a rule that if the insured has more animals of the same species, he is required to insure all the animals of the same species he owns, regardless of ownership, provided they are capable of being insured. Only by special consent of the insurer can just one part of one animal species be insured. In doing so, the uninsured animals are also introduced in an insurance documentation, with a description of each individual elements of their identification which, as a rule, accompany a special marking of insured animals.

Given the nature of the contractual relationships, the right of the insurer was also established in this type of insurance to make the control of the insured animals, damage occurred and all other relevant facts, which are subsumed under the so-called right to a risk audit. In compliance with the basic contractual obligations, the obligation of the policyholder who intends to undertake an action during the insurance period which will increase or decrease

a risk is to immediately notify the insurer before taking such actions. Due to the nature of the contractual relationships there is an obligation of the insured to immediately notify the insurer on occurred adverse event, and no later than three days after learning about its occurrence. In this insurance sector there is a full implementation of rules of a lower premium for the next period of insurance (bonus) and an increase in premium for the next period in the form of allowances (malus). Decrease or increase in premium for the following year is determined primarily on the basis of actual technical result (the ration of paid indemnity from insurance and technical premium expressed in obtained percentage). In this insurance sector the technical result is expressed cumulatively, for the period of last five years of insurance.

Technical result is determined by the types and categories of animals as follows:

- a) for some insured who have more animals in insurance;
- b) for some areas (according to organisational forms, settlements, etc.);
- c) for some property sectors (social and private sector).

Thus, based on the obtained technical result the reduction or increase in premium is determined for the next period of insurance, with the application of the so-called correction factor to the basic premium rate (e.g. if the technical result was achieved up to 30%, a discount up to 50% is granted with the application of correction factor 0.5, if the achieved technical result is over 180%, the increase in premium of 100% is done with the application of correction factor 0.2, etc.).

Allowances and discounts find their full application in this insurance sector too. In this way the special allowance for the exclusion of the provisions of the waiting period is charged (period after the conclusion of the insurance contract in which the insurer's obligation has not started). In this insurance sector discounts on premium which are approved by the insurer to the insured find their application too, if the insurance contract was concluded to a certain number of years (for insurance of 5-9 years a discount is 5%, for insurance of 10 and more years a discount is 10%). Also, certain discounts are approved if the insured of the private sector insure all their animals. To determine the amount of the premium, it is also very important to which risks group the insured animals belong. The risks group is, otherwise, defined as the set of animals in which an equal effect of noxious factors is noted and manifested for a long time, as well as those regarding the risks making a unique risk. Thus, in the risk group I, which therefore has a lower premium rate, those animals are assigned that are found in places with excellent organisation and production technology, where prevention is fully represented, and in the fifth risk group, which has a much higher premium rate, those animals that are in places where the conditions of housing, accommodation and food are less satisfying.<sup>16</sup>

The general rule in this insurance sector is that the premium rate, allowances and discounts are determined for the insurance period of one year, with premiums calculated in a certain percentage of the amount insured. These insurances may be concluded for a period of less than one year, but then for a certain period of time a particular process is calculated in relation to the annual premium.

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<sup>16</sup> See in - *Animal insurance premium tariff* of DDOR Novi Sad a.d., Novi Sad, 1990.

### **Insurance against the risk of drought**

The agricultural production is increasingly influenced by climate change, and our country was affected by severe droughts over the last decade, having devastating consequences on crops and fruits. Drought is one of the largest agricultural risks which can reduce yield over 50%. That is why some insurance companies launched a new product that provides financial compensation to farmers for the loss of yield due to the occurrence of this adverse climate event – insurance against the risk of drought.<sup>17</sup>

The following can be insured against the risk of drought: mercantile and seed corn, mercantile and seed soy and mercantile sugar beets. Drought means the reduction of rainfall in relation to the authoritative long-term precipitation in the periods in which the crops need for the water is greatest (for corn and sugar beets – during May, June, July and August, for soy – during June, July and August) and which results in a reduction of the yield of the insured crop.

Defining drought in insurance conditions has a basis in many years of meteorological reports of the Republic Hydro-meteorological Institute and is a reduction of yield based on rainfall reduction in the reference time period in relation to long-term average. Thus, the insured risk is a drought, which includes the reduction of authoritative rainfall compared to authoritative long-term rainfall average. Amounts of authoritative precipitation and authoritative long-term average depend on the type of insurance subject that can be insured.<sup>18</sup>

The following crops are not considered the subject of insurance: crops which are streaked (planted) on plots that do not have their identification, which are streaked (planted) on plots that are according to drought risk zones geographically not located within the administrative municipalities. The insurance does not cover damage or yield reductions caused by: any other reason other than the insured event; the effects of disease, pests or poor germination; non-compliance of production technology, i.e. application of optimal agro-technical measures for a given area and a given culture (seeding dates, seeding depth, dressing, etc.) or their improper implementation; the effect of high temperatures, uneven distribution of rainfall during the growing season, lack of deep moisture, inadequate humidity and any atmospheric and other influence that is not a drought risk.

### **Crop insurance against excess rainfall**

Farmers need protection from increasingly present climatic changes that have disastrous consequences. Excessive precipitation is one of the biggest risks that cause great damage to farmers. This insurance is a new type of insurance on our market, which provides a financial protection to farmers due to excessive precipitation. This type of insurance covers the most important crops: wheat, barley, oats, rye, canola, soy, corn, sugar beets

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17 See in - *Special conditions of insurance against the risk of drought*, DELTA GENERALI osiguranje a.d., Belgrade.

18 See in – Stojanović, Ž., Gligorijević, M., Rakonjac Antić, T. (2012): The role of the marketing mix in the improvement of agricultural insurance, *Economics of Agriculture*, Vol. 59, no. 4, p. 769-781.

and sunflower.<sup>19</sup> Excessive precipitation is extremely high rainfall due to which, in a short period of time, during two adjacent calendar decade (in May and June, when this risk is the most prominent) water drift is created on plots which destroy the insured crop, regardless of their proximity to canal, river or lake.

Unlike insurance against flood, in this case damage caused by water leakage from river channels, canals or lakes is not included. Data on rainfall amount is determined for each risk zone of excessive rainfall determined on the basis of climatologic stations of the Republic Hydro-meteorological Service and they represent clear evidence, submitted by the RHMS in an official form to the international institutions. This type of insurance can be concluded from the time of crop emergence to May 1<sup>st</sup> of the current year.

### **Insurance subsidies in agriculture**

A special problem in agricultural insurance are the catastrophic damage caused by natural forces, such as hail, floods, droughts, floods or can be caused by pests or epidemiology diseases. In such situations, when market mechanisms are being scheduled, a need for state intervention arises in the insurance market. It is achieved through subsidies. Subsidies range from 15% to 75% of insurance premium.<sup>20</sup>

In the Republic of Serbia, the premium payment of crop insurance, as well as animal insurance is facilitated by the subventions given by the Ministry of Agriculture, Trade, Forestry and Water Management<sup>21</sup>. However, the reason for subsidising insurance premium in Serbia is not so much due to the negative effects of natural forces, as much as it is due to complete impoverishment of farmers. The Government of the Republic of Serbia has adopted the Regulation on conditions and way of use of funds for reimbursement of insurance of animals, crops, fruits, nursery gardens and young perennial plants in 2012. The Regulation stipulates conditions and manner of use of funds for reimbursement for insurance of animals and areas under crops reported in 2012.

The right to use the funds for reimbursement of insurance of animals and areas under crops reported in 2012 is given to an individual - the holder of a farm that has been:

1. registered in the Register of Agricultural Holdings, and
2. in an active status.

The holder of a farm has the right to use the funds for reimbursement of insurance in the amount of 40% of the insurance premium net without tax included for non-life insurance premium, if he has insured:

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19 See in - *Special conditions of insurance against the risk of drought*, DELTA GENERALI osiguranje a.d., Belgrade.

20 See in – Njegomir, V., op. cit., pg. 63.

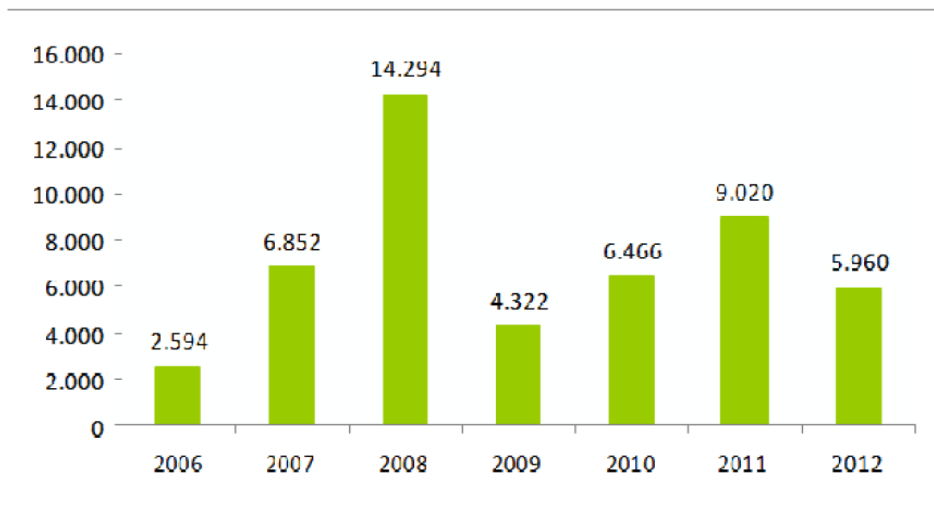
21 *Uredba o uslovima i načinu korišćenja sredstava za regresiranje osiguranja životinja, useva, plodova, rasadnika i mladih višegodišnjih zasada u 2012. Godini*, Službeni glasnik Republike Srbije, br. 38/12.

1. animals against the risk prescribed by conditions of insurance companies,
2. crops and fruits against the risk of yield reduction,
3. nursery gardens and young perennial plants before entering into race, against the risks prescribed by the insurance companies.

If, on the basis of the Regulation on stimulating agricultural production through credit support by subsidising a part of the interest in 2012, the insurance premium was paid by the Ministry of Agriculture, Trade, Forestry and Water Management, that policy cannot be the basis for the realisation of incentives. Insurance of sustainable and balanced development means a universal principle of approach to financial services, commonly referred to as micro-finance. Within micro-finance, micro-insurance has developed over time, which allows financial compensation in case of damage. Micro-insurance was named not because of the magnitude of the risk, institution or delivery channel, but for the fact this type of insurance is adjusted to the needs of people with lower income.<sup>22</sup> Providing insurance coverage in agricultural production which is based on the principles of micro-insurance can be long-term sustainable. Distribution must be achieved through already established networks, such as agricultural cooperatives, in order to minimise transaction costs, and the bid is achieved on a collective basis.<sup>23</sup>

**Table 1.** Number of filed applications<sup>24</sup>

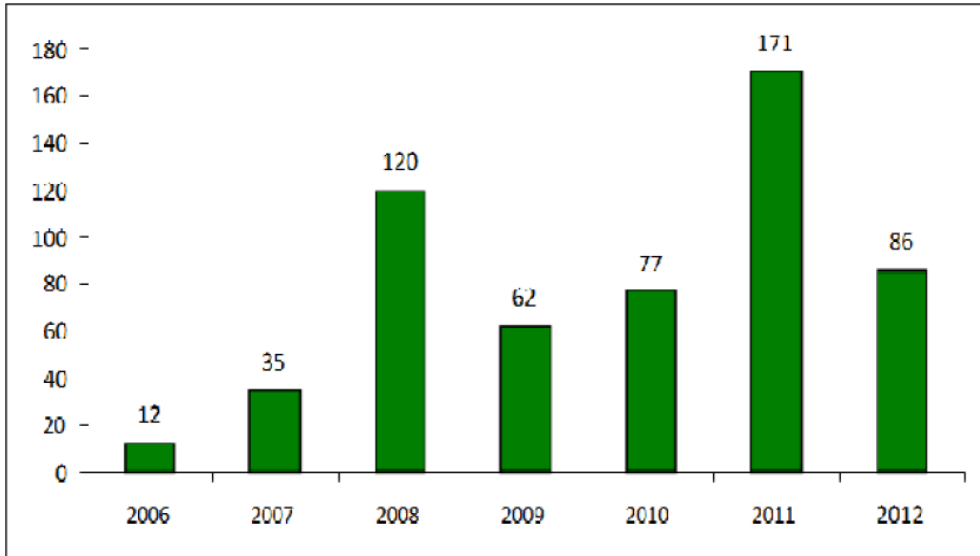
## NUMBER OF APPLICATIONS



22 See in - Churchill, C. (2008): *What is Insurance for the Poor?*, in Churchill, C. (ed) *Protecting the Poor: A Microinsurance, coprendium* (2008), International Labor Organization, Geneva.

23 Njegomir, V., op. cit., pg. 66.

24 Source: Official data of the Ministry responsible for agriculture, presented in the report: Mahmutović, S. (2012): *Podrška osiguranju u poljoprivredi*, Drugi poljoprivredni forum „Hrana za Evropu“, Ekonomski institut Beograd, Subotica.

**Table 2.** Amount of funds in millions of dollars<sup>25</sup>**AMOUNT OF FUNDS IN MILLIONS OF DINARS**

There is an unevenness of filing of applications and amounts of funds granted for subsidies in insurance of agriculture by years. The data indicate a relatively small presence of applications for subsidising in insurance of agriculture, probably due to the lack of information among agricultural producers about unquestionable advantages of insurance.

### Conclusion

Insurance plays an important role in protecting the income statement of each farmer. Yet, in spite of that, the insurance in agriculture in Serbia is underdeveloped. The attempt of the state to influence the development of insurance represents subsidising of insurance, that has, in the period of application of the Decree on conditions and manner of using the funds for compensating the insurance of animals, crops, fruits, nursery-gardens and young perennial plantations since 2006 until now, first of all, managed to strengthen awareness of the need for this kind of protection of farmers, but it has not significantly influenced an increase in the number of agricultural insurances.

Insurance of crops and animals in Serbia is mostly used by professional farmers and agricultural companies. Unfortunately, a large percentage of small farmers, especially those who deal with smaller areas of land, are not insured, and thus their income are very much dependent on the whims of nature.

<sup>25</sup> Source: Official data of the Ministry responsible for agriculture, as in Table no. 1. Tables listed by: Mahmutović, S. (2012): *Podrška osiguranju u poljoprivredi*, Second Agricultural Forum “Hrana za Evropu”, Belgrade Economics Institute, Subotica.



The Decree is a good example of state intervention for increase of the range of insurance in agriculture, but it is only a transitional solution, because producers have no developed awareness about advantages of insurance and have not got accustomed to seek for such services. Insurance organisations, on the other hand, have no economic motive to render insurance services to a small number of users of insurance in agriculture and they are therefore not developing this sector of insurance. In such conditions the existing state could be only improved by introducing compulsory insurance in agriculture.

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## OSIGURANJE U POLJOPRIVREDI

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### Sažetak

*Šteta u poljoprivrednoj proizvodnji može biti od presudne važnosti za privredu jedne države, posebno u zemljama u kojim poljoprivredna proizvodnja preovladava u bruto nacionalnom dohotku, kao što je to slučaj sa Srbijom. Međutim, podjednako je važno da poljoprivredni proizvođači u našoj državi upravljaju prihodima i rashodima na efikasan način i optimizuju profit po jedinici površine, što je i osnova njihovog poslovanja. Osiguranje igra važnu ulogu u zaštiti bilansa uspeha svakog poljoprivrednog proizvođača, a s obzirom da su troškovi osiguranja na nivou od 1,5% do 2% u proseku na proizvodnu vrednost, odnosno oni su veoma niski i štednja na osiguranju može da dovede do gubitaka ukupnog prinosa, a time i ukupnog profita. Uprkos tome, poljoprivredno osiguranje u Srbiji nije dovoljno razvijeno. Pokušaj države da podstakne razvoj osiguranja osiguravajućim subvencijama, u periodu sprovođenja ove uredbe odnosno od 2006. godine, je podiglo svest o potrebi ovog tipa zaštite poljoprivrednih proizvođača.*

**Ključne reči:** *poljoprivreda, osiguranje, subvencije.*

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