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*Candidate of Economic Sciences, Senior Research Scholar,
NSC "Institute of Agricultural Economics"***INSURANCE POLICY AND ITS MODELS IN RELATION TO AGRICULTURE
(STOCK-RAISING, PLANT-GROWING)****ANNOTATION**

The models of agricultural insurance are investigated in the article with regard to the experience of foreign countries. Two basic systems of agricultural insurance are distinguished: with state support and without it. Variability of the first one for different types of riskiness of agricultural activity is analyzed. The condition of agricultural insurance in Ukraine is evaluated and present defects are educed. Analysis and generalization of domestic and Russian experience are conducted with the use of statistical data retrieved from insurance web-sites. Recommendations for development of the model of domestic agricultural insurance on the basis of adaptation of foreign experience by means of agricultural insurance pool are worked out.

Keywords: models of insurance policy, agrarian sector, agricultural insurance, experience of the developed countries in agricultural insurance, efficiency of state support of agricultural insurance, stock-raising, plant-growing, agricultural insurance pool.

АНОТАЦІЯ

У статті досліджено моделі сільгоспстрахування, з розкриттям досвіду зарубіжних країн. Виділено дві основні системи агрострахування: із державною підтримкою та без, проаналізовані варіативність першої для різних типів ризиковості здійснення сільськогосподарської діяльності. Оцінено стан страхування сільського господарства України та виявлено наявні недоліки. Проведено аналіз та узагальнення вітчизняного і російського досвіду з використанням статистичних даних страхових сайтів. Вироблені рекомендації для розвитку моделі вітчизняного сільськогосподарського страхування на основі опрацювання зарубіжного досвіду за допомогою аграрного страхового пулу.

Ключові слова: моделі страхової політики, аграрний сектор, сільськогосподарське страхування, досвід розвинених країн у агрострахуванні, ефективність державної підтримки агрострахування, тваринництво, рослинництво, аграрний страховий пул.

АННОТАЦИЯ

В статье исследованы модели сельхозстрахования, с раскрытием опыта зарубежных стран. Выделены две основных системы агрострахования: с государственной поддержкой и без, проанализированы вариативность первой для разных типов рискованности осуществления сельскохозяйственной деятельности. Оценено состояние страхования сельского хозяйства Украины и выявлены имеющиеся недостатки. Проведен анализ и обобщение отечественного и русского опыта с использованием статистических данных страховых сайтов. Выработаны рекомендации для развития модели отечественного сельскохозяйственного страхования на основе проработки зарубежного опыта с помощью аграрного страхового пула.

Ключевые слова: модели страховой политики, аграрный сектор, сельскохозяйственное страхование, опыт развитых стран в агростраховании, эффективность государственной поддержки агрострахования, животноводство, растениеводство, аграрный страховой пул.

Problem setting. In the developed countries, agricultural insurance has already become a widespread practice and now encourages the development of agriculture. For Ukraine, this process is still emerging in the contradictory environment, with the search for its own path of sustainable models of the insurance policy of both macro- and

meso-level. Therefore, it is important to conduct an overall analysis of models of insurance policy regarding agricultural insurance.

Rural development is closely linked to the high risk manifested in absence of guarantees as for the results of production activity influenced by various factors, especially natural. Agricultural production of Ukraine includes two main branches – plant-growing and stock-raising and third intermediate one – fodder production that in large farms has its specifics, structure, organizational and economic principles etc. Plant-growing and fodder production are provided with about 93% of arable land in Ukraine, 30% of which is used for growing fodder crops. 40–50% of plant-growing industry is occupied by secondary products – straw from bread crops, corn and sorghum stalks, bagasse, molasses and others, which are intermediately used as fodder in the area of stock-raising. Therefore, the harmonious combination of plant-growing, stock-raising and fodder production is a necessary prerequisite for the successful functioning of the agricultural complex. Plant-growing in Ukraine, as noted, increasingly acquires biological characteristics, i.e. the one based on a wide use of alternative – biological and related agrotechnical – methods for growing crops with a minimum use of chemicals in the protection of plants and a maximum use of biological sources of plant nutrition. Thus, stock-raising, as well as plant-growing and fodder production require insurance coverage.

Analysis of recent researches and publications. The problem of agricultural insurance at various stages of its functioning and formation of models of insurance policies were the subjects of researches of such Ukrainian scholars as O. Hamankova, A. Holovko, O. Hudz, O. Dziubliuk, T. Kovalenko [13], S. Navrotskyi [15], M. Yampolskyi and others.

Recently, researches of T. Kovalenko [13], S. Navrotskyi [15], and Agroinsurance International [1; 10] have been followed by some positive developments in the state structure of risk management in agrarian sphere of Ukraine, including adoption of laws on insurance and agricultural insurance with state support [9], introduction of practice of agroinsurance licensing and more. In 2012, the Ukrainian Agricultural Insurance Pool was created as a single centre for risk management in programmes for grain procurement of Agrarian Fund, and for control over implementation of state support of agricultural insurance

[2]. However, the state programme subsidizing agricultural insurance in the 2012-2014 has not been started due to lack of funds in the state budget and other reasons.

In 2013, agricultural insurance market of Ukraine amounted to 16.5 million USD. Forecasts for 2014 are contradictory: they “show a tendency to decline in premium income to 20%, due to the political crisis in the country and the lack of subsidized agricultural insurance in Ukraine” [2]. Moreover, “the total assessment of potential of agricultural insurance market in 2014, including the state programmes and voluntary insurance, amounted to more than 200 million UAH. Implementing the promised subsidies for insurance with state support, premiums next year can exceed 300 million USD” [1].

Relevance of the research is manifested in construction of an optimal model of agricultural insurance, identification of the role of the state and insurance companies in this area, building of effective relationships between participants and facilitation of permanent balance of the financial state of agricultural enterprises.

Determination of unsolved aspects of the investigated problem. The problem at issue is at the intersection of different scientific fields, covering various aspects of state support for agricultural insurance. It is possible to find a theoretical and practical material regarding each of them, which reflects the results of general and particular approaches used by the authors. However, there is still no answer to the question concerning the theoretical and practical aspects and future insurance models used in the industry

According to specialists [1, p. 21], “despite the lack of government support, in 2013 the market acquired a clear segmentation – system support of state programmes for forward purchases (84% of market share) and development of voluntary insurance”.

This condition is caused by the fact that, according to researcher A. Nikitin, “more than for seventy years property insurance in agricultural sector was carried out in mandatory form. Demopolization of insurance market has not led to a fundamental change in the conceptual bases of insurance coverage. This is the main reason for the low level of insurance in agriculture at present” [16]. The main obstacles to forming a new effective model of commercial agricultural insurance with state support is low profitability of significant share of agricultural enterprises, especially small and medium-sized ones, high risk for most types of agricultural production and lack of budget funds. Therefore, even in the draft Concept of Agricultural Insurance, it is stated that “the situation that has developed today in Ukraine in the field of agricultural insurance, at least hinders progress and can be recognized as a crisis of the system” [14].

The most important problems of modern agricultural insurance are: lack of clear goals and

strategies of insurance development, absence of clear plan for state participation, undetermined types of agricultural insurance; existing significant deficiencies in the current legislation and flaws of methodological basis, as regulations do not allow private and commercial forms of insurance to develop and so on.

The purpose of the article is to analyze models of agricultural insurance, to classify them depending on the types of demand that are characteristic of the agricultural insurance market, as well as to find strategic solutions to overcome them.

Results of research. Agricultural insurance as one of the most effective ways to manage risks, enables to reconcile the interests of participants of agricultural insurance market and the state. Its top-priority task, especially on the part of public policy, is to ensure sustainable economic growth, welfare and protection of agricultural economic sector.

The current state of the insurance market in the agricultural sector does not give grounds for optimism: insurance services to farmers are provided only by a small number of companies; information on the insurance conditions and procedures is incomplete and hard to find; a list of risks covered by insurance companies often does not meet the needs of insurers represented by farmers. In particular, according to the information provided by Agroinsurance International [1, p. 2-3], data regarding crop insurance for 2009-2013 is as follows (Fig. 1).

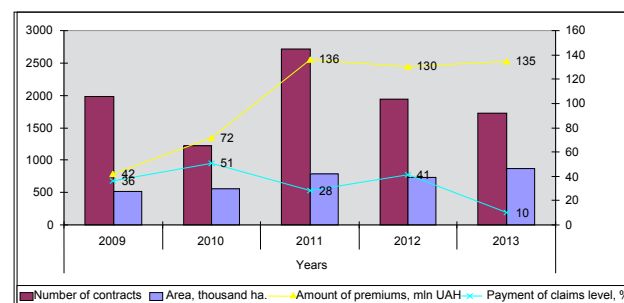


Fig. 1. Dynamics of crop insurance for 2009-2013

Insurance market for the agricultural sector shows a slight increase in 2013 over the past three years. Steadily grows the coverage of insured areas, even given a decrease in the number of contracts from 2,710 in 2011 to 1,722 in 2013. Total amount of premiums for insurance companies shows a slight increase because of reduction of the average premium rate from 3.74 in 2011 to 3.10 in 2013. As explained by experts [1], the low rate is determined by common application of multi-risk contracts with unconditional franchise at 50%, with the condition of compensation for only catastrophic losses. Total compensation payments under contracts in 2013 amounted to 13 million USD. However, within the total amount of premiums collected by the insurance market in 2013, 84% is accounted for revenues for programmes, coordinated by the Agricultural

Insurance Pool. That is, to a certain extent the insurance market suffers from one-sidedness of programmes and administrative regulations.

Composition of risks in the agricultural sector is directly predetermined by types of activities or available resources that may be damaged or lost under the influence of certain events (see Fig. 2).

The presence of many risks varied in their nature, probability of occurrence, and extent causes specifics of formation and structure of resources allocated to the needs of insurance coverage of farms.

Therefore, as in other areas of scientific knowledge, there is a need to analyze the prac-

tices and experiences of agricultural insurance models used abroad.

Thus, as explored by V. Kiselev [12] M. Arshba [4] and others [1; 3; 6; 7; 17; 20; 22-26], the sphere of agricultural insurance system is wide enough. Results of a brief analysis of existing insurance schemes abroad are provided in Table 1.

According to the scholars, namely V. Kiselev [12], agricultural insurance is the object of attention and support on the part of the state in many developed countries. Effective development of the most important tool for agricultural production regulation – insurance – is facilitated by the fact that state support in accordance with WTO rules

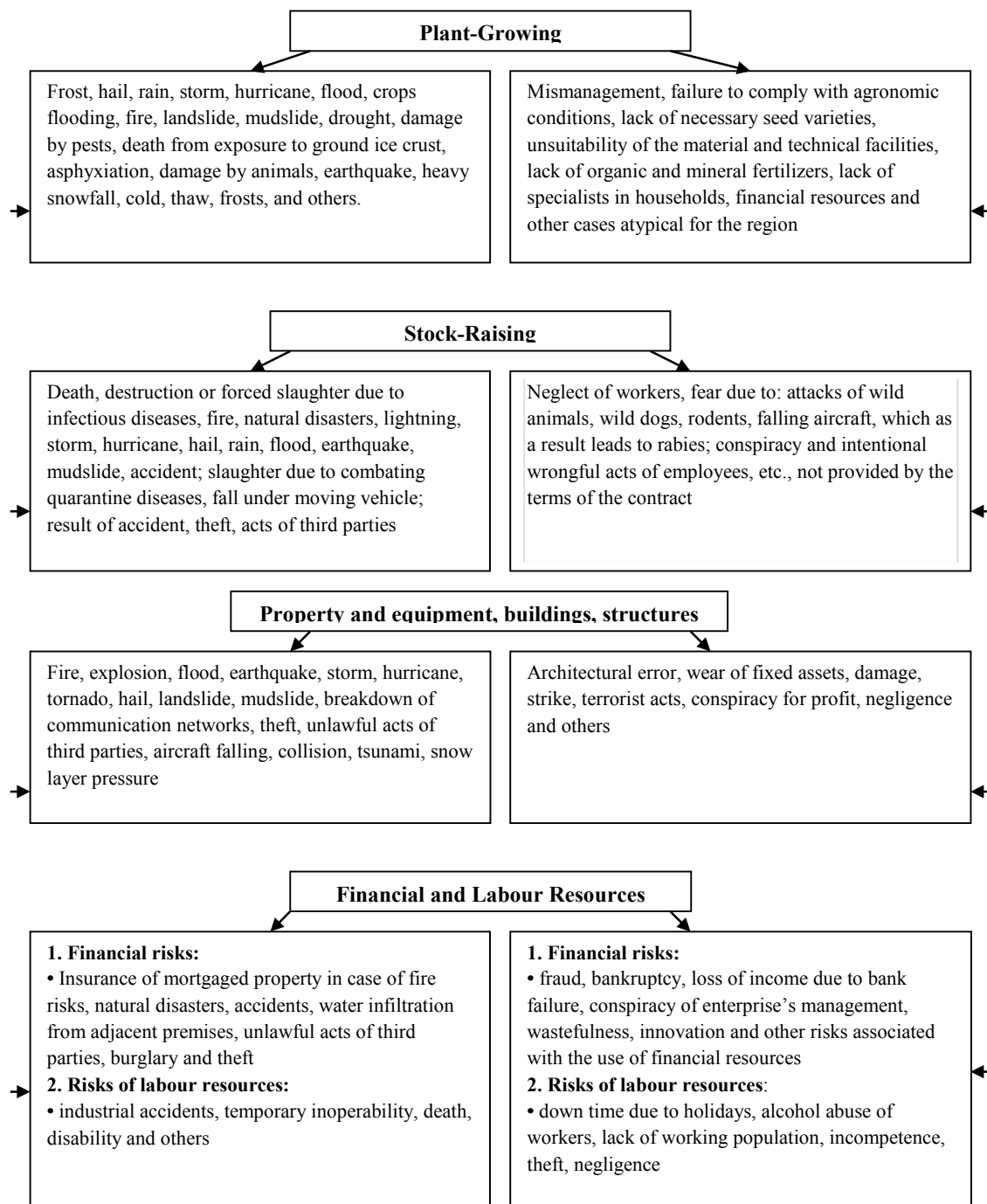


Fig. 2. Insurable and uninsurable agricultural risks

is exempted from reduction commitments. Foreign experience, according to A. Nikitin [16] also shows that insurance is a mechanism to protect not only the property interests of the producers, but also investments in the modern innovative technologies in agricultural production.

In general, there are two types of programmes: yield insurance programmes and profits insurance programmes that guarantee to compensate agricultural producers for losses caused not only by crop shortfall, but also by falling product prices.

Approaches inherent in most insurance models in foreign countries are based on modelling the risks to biological systems, and are significantly different from traditional modelling of property risks, because “biological systems have the ability to adapt to different types of hazards and recovery from hazards depending on the time of exposure during certain growth phase” [23]. Therefore, the dynamics of determination of the elasticity of the impact of hazards, for example, according to researches conducted by Agriculture Risk, is divided into modelling by crops (compensation depends on the type of crop), agro-climatic zone, soil type and topography, plant variety, production methods and so on.

With respect to existing models of agricultural insurance, it is voluntary and mandatory for all countries. Mandatory insurance is a rare practice. The form of state participation is participation in the payment of premiums or partial compensation for losses in the case of certain risks.

Agricultural insurance with state support is practiced in the United States, Canada, Russia and so on. Obviously, these are countries with a large territory, therefore “as a result of the disaster, a significant number of farmers immediately suffer damage, causing large payments and the high cost of insurance”. That is why agricultural insurance requires state involvement. Agricultural insurance without government support is developed in Germany, Norway, Belgium, etc. Such insurance organization is inherent in countries with a low-risk nature of farming.

In general, experience shows that in the international practice of agricultural insurance there formed two basic models, which can be called “American” and “European” [1; 2]. Both models have their advantages and disadvantages, but the most effective in insuring agricultural risks is a combination of both. Such a system of agricultural insurance operates in Spain, which, according to experts of international EU programme Tacis “Improvement of Risk Management Capacity of Farmers and SMEs in Agriculture” is the country with the most developed system of agricultural insurance in Europe [1].

Thus, taking as a basis the “Expert RA” statement [5] that the “effective system of agricultural insurance should be based on definite principles”, we determined the major ones (Table 2).

According to experts [1, p. 21], the main prerequisites for leadership of insurance companies in the coming years are: development of insurance in the region; introduction of simple and

Table 1

The main agricultural insurance programmes abroad

Programmes	Summary
USA	State support for agricultural insurance is provided since in 1980 there has been adopted the Federal Crop Insurance Act. The structure of all collected premiums is distributed as follows: income insurance programme – 60% of total premiums; crop insurance programme – 20%; income index programme – 10%; crop yield index programme – 3%. The remaining 7% of insurance premiums are charges of special programmes for federal subsidies for crops.
Portugal	“Public-private partnership” system. State: subsidies to farmers for insurance and reinsurance organization. Private insurance companies (integrated in agricultural insurance system): development of insurance programmes and monitoring of their implementation; reimbursement of risks not reimbursed by the state.
Spain	The complex system of agricultural insurance was founded in Spain in 1978 with adoption of the Law “On Combined Agricultural Insurance”. The system introduced by this Law is applicable to plant-growing, stock-raising, and forestry.
Austria	In the field of assistance to agricultural companies it coincides with the Russian (the farm pays 50% of the insurance premium under the policy, and the state pays 50% of premium to the insurer on the basis of statements of agricultural producers): there is a special fund that compensates 25% of premiums to insurers; local budgets also pay 25%; the remaining amount the farmer pays alone.
India	In November 2013, the government adopted the National Crop Insurance Programme that integrates existing insurance schemes, such as the National Agricultural Insurance Scheme (NAIS), Weather Based Crop Insurance Scheme (WBCIS), and Modified National Agricultural Insurance (MNAIS). It is aimed at rationalization of insurance services provided to farmers and stabilization of revenues, especially from climate risks.
Russia	The sphere is regulated by the Federal Law of 25.07.2011 № 260-ФЗ “On State Support of Agricultural Insurance”. It provides the list of rules regarding subsidies from the state budget to offset the cost of agricultural crops in crop insurance. Subsidies are available for agricultural producers to finance 50% of premiums under insurance contracts.
Belarus	Law on compulsory insurance of agricultural risks, according to which since January 1, 2008 all farms should insure crops and livestock in insurance company BelGosStrakh

Source: [3; 7; 8; 11; 19; 20; 22-24]

Table 2

Basic principles of forming a model of agricultural insurance

Principles	Summary
Voluntariness	Insurance of agricultural risks refers to strategies of risk management of businesses, large and medium-sized farms, entrepreneurs, individual farms, and should be built on a voluntary basis
Interest of farmers	Participation in the agricultural insurance should be profitable for farmers
Risk management	Insurance should be a part of risk management for farmers, being perceived not as a way of stealing public funds or getting access to free grants, but as a risk management tool
Multivariance of product range	The insured must be free to choose a suitable insurance product among a broad spectrum. Between the insurance companies there must be a competition for customers
Promotion of effective agricultural producers	Insurance should encourage the development of manufacturing technologies in agriculture. Calculating the insurance premium, it is necessary to consider the availability of advanced manufacturing technologies that reduce farmer's risks. Crop shortfall figure should be calculated individually according to the data of a particular agricultural enterprise rather than the average for the region
Equal access to subsidies on the part of farmers	In order to preserve free competition between agricultural producers, state subsidies should be provided in an equal amount regardless of the economic entity and type of economy. This is especially true in relation to holdings and individual farms, because it is not yet possible to eliminate the gap between them
Balance	The amount of allocated subsidies should be in direct proportion to the demand for agricultural insurance with state support
Transparency	The whole mechanism of contracting and receiving insurance compensations must be clear and simple, especially for farmers, being controlled by the state protecting consumers from unscrupulous insurance companies
Multilevel system of insurance protection	The specificity of agricultural insurance (high probability of cumulative risks), and high social significance of this type of insurance determine the need for additional requirements to the reliability of insurance companies operating in this area – namely, compulsory participation of the state
Independent expertise	The underwriting system and claims handling in agricultural insurance should be based on independent expertise as insurance activity is full of conflicts requiring an independent external evaluation in case of disputes

Source: [5]

clear insurance programmes for agricultural producers; development of a single underwriting system; focus on cooperation with medium-sized and small enterprises; development of cooperation with banks regarding mortgage insurance and government agencies that implement the strategy of agricultural development. As evidenced in the article, these measures can only be implemented with the participation of the state.

However, analyzing scenarios of development of agricultural insurance model with state support, the researchers have not obtained consensus. For example, some researchers [18] believe that farmers, insurance companies, the state, and the economy as a whole will come off losers, as “farmers will take insurance premiums not as payment for the purchase of insurance coverage, but only as a condition of receiving gratuitous grants from state. Insurance companies will treat agricultural insurance as a temporary source of income, without strategic development of this business”. It is necessary to eliminate these factors, creating an effective agricultural insurance model.

We believe that using foreign experience to make insurance with state support efficient, the following recommendations are to be followed: application of such relevant technologies as remote sensing, simulation, 3D visualization, information and communication technologies in the insurance business as tools to improve the accuracy and objective assessment of yield and yield loss.

It is necessary to create a single database, which must collect everything connected with insurance, weather data, atlas of thresholds for critical weather elements, profitability, productivity, vegetation phases etc. so that it would be equally accessible to all parties concerned and that it could be used by the government and insurance industry as a guide.

Equally important is the development of innovative schemes linking insurance and other financial services such as loans, sales of risk management strategies to reduce the cost of the transaction and to ensure long-term sustainability. It is necessary to organize a proper system of standardization, regulation, and control, prompt response to complaints of producers.

According to V. Kiselev, “the main purpose of state regulation in the insurance sector should be formation of reliable and equitable relationships between suppliers and consumers of insurance services able to provide mutually beneficial cooperation between them. It is necessary to completely change the institutions and procedures of interaction between the insurance market conditions and their practical application. The state should act as the primary institution forming acceptable operating conditions for agroinsurance market and creating major incentives for this. Insurance companies should act as the main subject of reproduction of insurance relations” [12].

In general, the convergence of agricultural insurance management can provide unique products. According to research of S. Navrotskyi [15], this will manifest itself in: subsidizing insurance premiums and benefits; compensation for administrative costs; financing the development of insurance products; funding educational and information activities, scientific research; subsidizing reinsurance and so on.

Conclusions. It can be claimed that in Ukraine there is already established and developing infrastructure of production and profits risk management with support of the state and insurance companies. A significant place belongs to the agricultural insurance pool. This model is based on the state participation in insurance activities in agriculture. First of all, it is necessary to determine the amount of budget obligations of the state to subsidize agricultural insurance. It is also expedient to differentiate insurance rates, provide a list of crops covered by insurance with regard to zonal conditions of agricultural production, create public funds of insurance reserves, implement agricultural insurance support according to the principle of the separation of state's and insurers' costs, develop new programmes, including integrated.

It is also necessary to create a reliable system of reinsurance. The problem is to make reinsurance risk assessment criteria of insurer and reinsurer match. Foreign reinsurers should be able to understand the technique of reinsurance. Often, the criteria of Western insurance companies do not coincide with the Ukrainian ones. This is particularly true regarding value of the insurance rate. In the whole world, agricultural risks are the most complex and therefore rates are high.

The insured also have some problems. An important factor is the psychological effect. Farmers are not well-informed about their rights and responsibilities as the insured. Therefore, even minor inconsistencies in the existing insurance mechanism cause their suspicion and distrust. It is necessary to increase the insurance literacy of farmers.

The optimal model of agricultural insurance is a state system involving the insurance business. Currently, this problem is elaborated by the Agrarian Insurance Pool. It deals with the reduction of the risks of agricultural producers by creating services and products in the field of risk management. It is worth noting that together with the Ministry of Agrarian Policy and Food of Ukraine, the National Commission for State Regulation of Financial Services Markets develops a series of important documents. Recently, the Commission prepared documents related to the insurance of winter crops in the spring and summer for public consultation. We hope that by the end of February they will be approved. Thus, the insurance companies that are part of the Pool will begin preparation for the insurance season. The mentioned areas are the prerogative of further research in this field.

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