Insurance is an effective tool for reducing financial risks for agricultural producers. Agricultural insurance allows to ensure a stable income for producers regardless reduce the risk of financial losses in case of negative impact of natural factors. The article explores the issues of agricultural insurance in Ukraine and in foreign countries. The authors analyze various aspects of agricultural insurance, from ensuring the financial stability of farmers to supporting sustainable agricultural development. The purpose of the article is to analyze the current state of agricultural insurance in Ukraine and determine the prospects for its development, as well as to compare the experience of other countries with agricultural insurance. The main scientific results of the study are an analysis of the activities and services of Ukrainian insurance companies, a review of the state support program for agricultural insurance in Ukraine, and a comparison of foreign experience in agricultural insurance in countries such as Germany, the United States, Canada, Spain, and Poland. The article uses scientific methods of analysis, synthesis and generalization to study the theoretical and practical aspects of the problem of agricultural insurance in Ukraine and the world. An analysis of foreign experience in this area was also conducted. The article examines the concept of “agri-insurance”. A detailed analysis of the activities and services of the Ukrainian insurance companies ASKA, Universalna, Persha Insurance, and UPSK is carried out, and it is concluded that agricultural products are most often insured in Ukraine, and less often machinery and animals. The foreign experience of agricultural insurance in Germany, the USA, Canada, Spain and Poland is studied, their differences are identified, and the goal is to ensure the financial stability of farmers and support sustainable agricultural development, although each country uses different mechanisms to support agricultural insurance. The program of state support for agricultural insurance, which is currently being implemented by the Ukrainian government, is considered. The draft order “On a standardized insurance product for insurance of winter grain crops with state support against agricultural insurance risks for the entire period of cultivation” is analyzed. The study identifies prospects for the development of the Ukrainian agricultural insurance market, including the development of the insurance market, expansion of insurance coverage, use of the latest technologies, and development of new insurance products. The study is original in nature, as the authors consider the issue of agricultural insurance in a comprehensive manner and draw attention to its importance for the sustainable development of agriculture. The results of the study can be applied in decision-making practice for the development of agricultural insurance in Ukraine.

Key words: agricultural insurance; risks; insurance companies; state support; agriculture.
Statement of the problem in a general form and its connection with important scientific or practical tasks. Agricultural insurance is an important component for Ukraine, as the agricultural sector is one of the largest sectors of the national economy. Ensuring its stable and uninterrupted operation is a very important factor for the economic stability of the country as a whole. Agricultural insurance helps to reduce the risks of growing agricultural products, such as droughts, heavy rains, frosts, pests, etc., which can lead to significant losses for agricultural enterprises and the country as a whole.

Analysis of the latest studies and publications, which the author relies on, which consider this problem and approaches to its solution. The problem of agricultural risk insurance is an important topic for many scientists and economists. Famous scientists who have conducted research in this area include V. Mirgorodskya [1], S. Pokhylyko [1], T. Petruk [2], Y. Krakivskyi [3], Y. Aleskerova [4], O. Hutsalenko [4], H. Marich [5], T. Petruk [2], Y. Krakivskyi [3], Y. Aleskerova [4].

Formulation of the goals of the article (statement of the task). The main objectives of the article are to determine the current state of the agricultural insurance market in Ukraine (volumes, types of insurance and the level of participation of agricultural enterprises in insurance programs), given the challenges of the full-scale aggression of the Russian Federation against Ukraine, to study the mechanisms of agricultural insurance support in different countries and identify positive examples for Ukraine, and to analyze the program of state support for agricultural insurance currently being implemented by the Ukrainian government, as well as to outline the prospects for the development of the Ukrainian market.

Presentation of the main research material. Agricultural insurance in Ukraine is an important component of the sustainable development of the agricultural sector, as it helps to reduce the risks associated with growing plants and animals, and to preserve income or reduce losses in the event of negative consequences of natural phenomena, diseases or other circumstances.

Analyzing the concepts from Table 1, we can conclude that agricultural insurance is a type of insurance that protects agricultural products, machinery, and animals from risks and provides for compensation for losses. In Ukraine, 10 insurance companies are currently engaged in classical agricultural insurance, although more than 40 companies have licenses to provide this type of insurance.
Analyzing Table 2, we can conclude that all Ukrainian insurance companies, except for two, Etalon and Guardian, reduced their agricultural insurance payments in 2022 compared to previous years, this may be due to a decrease in the number of companies insuring their property due to the unstable economic and political situation.

PZU Insurance Company has the largest volume of payments, but it decreased by 68% in 2022 compared to 2021 and by 57% compared to 2020. UNIVERSALNA also reduced its insurance payments by 31% in 2022 compared to 2021, but increased them by 111% compared to 2020.

Insurance companies Krayina, ARX, Ingo and ORANTA also reduced their insurance payments in 2022 compared to previous years. Guardian increased its insurance payments by 13% in 2022 compared to 2021, but reduced them by 92% compared to 2020. ORANTA experienced a 26% decrease in its insurance payments compared to 2021, and BROKBUSINESS does not have data for 2021, but experienced an 83% decrease compared to 2020. UPSK has data only for 2021 and 2020 and reduced its insurance payments by 34% in 2021 compared to 2020.

Based on the table data, we have constructed a diagram (Fig.1), analyzing which we can say that most insurance companies have reduced their insurance payments for agricultural insurance in 2022 compared to previous years.

Table 1

<table>
<thead>
<tr>
<th>Author</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.V. Pokhyliko, V.S. Myrhorodsko</td>
<td>is a special type of property insurance under which agricultural producers (enterprises and individuals) acting as insureds, by purchasing an insurance policy from an insurer, ensure protection of their activities against specific industry risks (loss of crops and plantings of perennial plantations) with a low level of predictability</td>
</tr>
<tr>
<td>O.M. Ostapenko</td>
<td>an objective category that allows to regulate the relations between insurers and agricultural producers regarding the settlement of issues of compensation for losses to each other</td>
</tr>
<tr>
<td>Y. S. Krakivskyi</td>
<td>a mechanism for managing all agricultural risks that balances the interests of all parties or participants</td>
</tr>
<tr>
<td>Y. V. Aleskerova</td>
<td>is a set of economic relations between specific economic entities, where one party is insurers and the other party is insureds - agricultural producers who, for a specified fee, transfer their potential risks that may occur in agricultural production in order to receive compensation in the event of an insured event</td>
</tr>
<tr>
<td>Y. V. Samoilik</td>
<td>is a type of civil law relationship to protect the property interests of individuals and legal entities involved in agricultural production in the event of certain events (insured events) specified in the insurance contract or applicable law</td>
</tr>
<tr>
<td>O. M. Lobova</td>
<td>is a system of economic relations between specific economic entities, where, on the one hand, there are insurers - financial and credit institutions, and on the other - insureds - agricultural enterprises, tenants, peasant (farm) households, which for a certain fee transfer their risks of property and financial losses in agricultural activities in order to receive compensation for the occurrence of an insured event</td>
</tr>
</tbody>
</table>

Source: compiled by the authors based on: [1-5]

Table 2

<table>
<thead>
<tr>
<th>Insurance company</th>
<th>9 months of 2022</th>
<th>9 months of 2021</th>
<th>9 months of 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>PZU UKPAІHa</td>
<td>42 112</td>
<td>130 438</td>
<td>98 661,50</td>
</tr>
<tr>
<td>UNIVERSALNA</td>
<td>14 591</td>
<td>21 265</td>
<td>10 079,50</td>
</tr>
<tr>
<td>KRAYINA</td>
<td>2 760</td>
<td>4 789</td>
<td>-</td>
</tr>
<tr>
<td>ARX</td>
<td>2 742</td>
<td>9 866</td>
<td>7 764,20</td>
</tr>
<tr>
<td>GARDIAN</td>
<td>2 568</td>
<td>2 366</td>
<td>36,3</td>
</tr>
<tr>
<td>ETALON</td>
<td>2 522</td>
<td>498</td>
<td>8 460</td>
</tr>
<tr>
<td>ORANTA</td>
<td>2 485</td>
<td>3 075</td>
<td>3 573,60</td>
</tr>
<tr>
<td>INGO</td>
<td>426</td>
<td>3 246</td>
<td>5 235,00</td>
</tr>
<tr>
<td>TAC CG</td>
<td>191</td>
<td>-</td>
<td>259,5</td>
</tr>
<tr>
<td>BROKBUSINESS</td>
<td>34</td>
<td>-</td>
<td>194</td>
</tr>
<tr>
<td>UPSK</td>
<td>-</td>
<td>641</td>
<td>945,9</td>
</tr>
</tbody>
</table>

Source: compiled by the authors based on: [6]
In this paper, we have analyzed the activities of four companies: «PZU», «Universalna», «Krayina» and «UPSK».

The largest volume of insurance premiums is provided by PZU, and its services include:

1. Crop insurance for the wintering period. It provides insurance of expenses incurred by the farm for sowing and growing winter crops.

   The cost of insurance is determined on the basis of the basic tariff, taking into account adjustment coefficients. The insurance premium is payable in a lump sum or by installments, but no later than December 1 of the current year.

   The program allows you to protect crops against the most dangerous winter risks that most often threaten plants. Death means the destruction of 50% (or more) of plants from their original density.

2. Future crop insurance for the spring-summer period. It provides insurance of future harvest of winter and spring crops. The insurance is provided in case of non-receipt or shortfall of the crop harvest as a result of the occurrence of insurance risks.

   The sum insured is determined as the value of the future harvest by multiplying the insured yield (trigger) by the area of crops taken for insurance and the price of a metric unit of the respective agricultural product.

3. Insurance of perennial plantations. The insurance program allows you to protect perennial plantations: fruit and berry crops and vineyards from death. The sum insured is determined in the amount of the appraised or book value of the plantations. The subject of insurance is orchards and vineyards.

4. Animal insurance. The program allows compensation for material losses associated with the death and forced slaughter of livestock as a result of natural disasters, accidents, and infectious diseases. The insured risks in this type of insurance are fire, smoke, soot, corrosive gas, lightning, explosion, natural disasters, etc. The insurance rate depends on the type of animal, the size of the selected deductible, and can range from 0.1 to 5.0 percent of the sum insured [7].

   Universalna Insurance Company ranks second in terms of insurance payments; it specializes in insuring agricultural crops such as wheat, barley, rye, triticale, and winter rape. The insured event under the insurance contract is the complete or partial loss, destruction or damage to crops that resulted in the failure to receive or shortfall in the crop yield in the event of direct exposure to insurance risks.

   Under this type of insurance, the sum insured is determined by multiplying the level of insured yield (trigger) by the area of crops taken for insurance and the price of a metric unit of the crop. When signing the insurance contract, the farmer can choose the level of insurance coverage, prices for future products, and the percentage of reimbursement of expenses in the winter period. Insurance rates are calculated based on statistical data on the unprofitability of agricultural production over the past 20 years in Ukraine [8].

   Insurance company «Krayina» ranks third in terms of insurance payments, its activities are carried out in the following areas: insurance of agricultural machinery, insurance of perennial...
opportunities of agricultural insurance; sufficient information about the benefits and premiums among agricultural enterprises; from the state regarding the distribution of insurance throughout the entire agricultural production cycle; areas and the amount of insurance premiums; centralized statistical information on insured crop of possible losses in the future, as there is no; are unbalanced and incorrectly reflect the cost insurance terms and conditions; to low quality of service and lack of transparency of agricultural insurance development in Ukraine: helped to identify the following main problems of the official websites of the companies.

Insurance contracts can cover: overwintering crops, including protection against spring frosts until May; future harvest against both complex and named risks; future harvest according to the yield index, and others. Tariff rates vary by region [9].

UPSK Insurance Company provides agricultural insurance under the following programs:
1. Program of comprehensive insurance of crops for the period of wintering.
2. Comprehensive insurance of future crops harvest.
3. Insurance of future crops against hail and fire.

Insurance rates for each of the programs are determined depending on the crop, the region of cultivation, the selected deductible, the list of risks, the size of the crops transferred for insurance, etc. Insureds can be agricultural producers engaged in the cultivation of winter and spring crops.

The company carries out reinsurance with a non-resident reinsurer with a high reliability rating and experience in providing reinsurance protection to the Ukrainian crop insurance market [10].

After analyzing the work of insurance companies, we can conclude that agricultural products are most often insured in Ukraine, and machinery and animals are less common. In general, the level of insurance tariffs is quite difficult to analyze because of the individual approach to each client, and the level of insurance indemnities is not indicated on the official websites of the companies.

The analysis of insurance companies’ activities helped to identify the following main problems of agricultural insurance development in Ukraine:
1) farmers’ distrust of insurance companies due to low quality of service and lack of transparency of insurance terms and conditions;
2) tariff rates for agricultural insurance services are unbalanced and incorrectly reflect the cost of possible losses in the future, as there is no centralized statistical information on insured crop areas and the amount of insurance premiums collected;
3) crop insurance is not used in Ukraine throughout the entire agricultural production cycle;
4) the lack of a mechanism to provide guarantees from the state regarding the distribution of insurance premiums among agricultural enterprises;
5) many agricultural enterprises do not have sufficient information about the benefits and opportunities of agricultural insurance;
6) the system of collecting statistical data and technologies for assessing damages in Ukrainian agriculture is imperfect, which complicates the process of determining the cost of insurance premiums;
7) high tariffs for agricultural insurance make many farmers refuse to take it out.

For comparison, let’s look at the peculiarities of agricultural insurance in different countries of the world (Table 3).

Each country has its own agricultural insurance system with distinctive features. The United States and Poland provide government support to attract more farmers to insurance, thus reducing the cost of insurance services.

In the United States, the government provides subsidies to pay part of the insurance premiums, and in Poland, there is an Insurance Guarantee Fund to pay 100% of insurance indemnity under compulsory insurance contracts. In Canada, the state develops insurance programs and insurance products with state support, which reduces the cost of insurance products, but can be an additional burden on the country’s budget. In Germany, the private sector prevails in the agricultural insurance system, but the state is involved in the effective development of the agricultural insurance system and providing farmers with access to it.

Thus, it can be concluded that each country has its own peculiarities of agricultural insurance, but in general, its goal is the same - to ensure financial stability of farmers and support sustainable agricultural development. Each country may use different mechanisms to support agricultural insurance, from subsidies to government programs and support for the development of the insurance market.

Based on the above features of agricultural insurance in different countries, the following elements of foreign agricultural insurance practice can be introduced in Ukraine:
1. State involvement through subsidies can reduce the cost of insurance services and make them more affordable for farmers. A program similar to the American model, where the state pays a portion of the insurance premiums actually paid by insureds, could be considered.
2. State insurance system: Development of state insurance programs and state-supported insurance products, as in Canada, could provide lower cost insurance products for farmers.
3. Introducing compulsory insurance, as in Poland, can provide protection against certain risks for farmers.
4. Establishment of an Insurance Guarantee Fund, similar to the Polish example, can ensure 100% payment of insurance indemnity under compulsory liability insurance contracts for persons engaged in agriculture.
In Ukraine has mandatory state-supported crop insurance and voluntary insurance against risks associated with livestock farming. The state promotes the development of the insurance market, in particular by reducing tax rates for insurance companies that raise funds for the development of agricultural insurance.

Ukraine is currently implementing a program of state support for agricultural insurance. This means that each insurance company will be able to receive a certain compensation for paying insurance premiums in the agricultural sector.

According to the Resolution dated 09.12.2021 «On Approval of the Procedure for Providing State Support for Agricultural Insurance», state support may be provided to agricultural producers - legal entities and individual entrepreneurs. The compensation is provided in the amount of up to 60 percent of the insurance premium, but may not exceed 10 thousand minimum wages established as of January 1 of the relevant year.

To receive compensation under the concluded insurance contracts, the insured shall submit to the authorized insurer:

1. an application in the form established by the Ministry of Agrarian Policy;
2. consent to the provision of information containing personal data by the authorized insurer to the Ministry of Agrarian Policy in the form determined by the authorized insurer;
3. a bank-certified copy of the payment order for the payment of insurance premiums;
4. a certificate of opening a current account issued by a bank.

Applications are submitted:
- before April 1 of the current year - for insurance contracts concluded from November 10 of the previous year to March 31 of the current year;
- until August 1 of the current year - for insurance contracts concluded from April 1 to July 31 of the current year;
- until November 10 of the current year - for insurance contracts concluded from August 1 to November 9 of the current year [15].

On February 7, 2023, the Ministry of Agrarian Policy and Food published a draft order «On a standardized insurance product for insuring winter grain crops with state support against agricultural insurance risks for the entire period of cultivation» [16]. The adoption of this order will determine the procedure and conditions for insuring winter grain crops with state support against agricultural insurance risks for the entire period of cultivation.

The draft document provides for the approval of, inter alia:

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**Table 3**

<table>
<thead>
<tr>
<th>Country</th>
<th>Features of agricultural insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>The American model involves the state in the insurance of farmers by providing subsidies to cover a portion of the insurance premiums actually paid by the insured. This reduces the cost of insurance services and makes them more attractive to consumers. The standard amount of reimbursement by the state of a portion of the insurance premiums paid by insurers is 50% of the cost of the insurance service.</td>
</tr>
<tr>
<td>Canada</td>
<td>Canada has a state agricultural insurance system. The state develops insurance programs and insurance products with state support, for the implementation of which it uses funds from the central and local budgets. The advantage of such a system is that the cost of insurance products is lower with the help of the state, but at the same time it is an additional burden for the country's budget.</td>
</tr>
<tr>
<td>Poland</td>
<td>Polish farmers are required to insure at least 50% of their crops and livestock. A Polish farmer must insure livestock against at least one of the following insurance risks: hurricane, flood, rain, hail, lightning, landslides, lava flows, and forced slaughter. The following livestock are subject to compulsory insurance: cattle, horses, sheep, goats, poultry and pigs. The maximum sum insured is determined by an order of the Ministry of Agriculture and Rural Development. In Poland, the state ensures the functioning of the Insurance Guarantee Fund to pay 100% of insurance indemnity under compulsory liability insurance contracts for persons engaged in agriculture.</td>
</tr>
<tr>
<td>Germany</td>
<td>The private sector predominates in the agricultural insurance system, where no subsidies are paid from the state budget at all. However, the state is directly involved in the effective development of the agricultural insurance system: it actively manages the system by developing basic insurance products, introducing a number of restrictions and establishing the technical framework for the system. The country also has programs of situational payments from the state budget in the event of natural disasters. These programs are structured, and payments are made only if authorized by the European Union.</td>
</tr>
<tr>
<td>Spain</td>
<td>More than 70% of farmers, about 90% of crops and 70% of livestock are insured. On average, subsidization is at 53% of total premiums. Of these, 40-45% are subsidized by the central government and 10-15% by regional governments. Catastrophic losses are compensated primarily to farms that have insured their crops or animals. Crop insurance is an integral part of the national agricultural policy. All risks are reinsured through the state reinsurance company.</td>
</tr>
</tbody>
</table>

Source: compiled by the authors based on: [11-14]
- Terms and conditions of the contract of insurance of winter grain crops with state support against agricultural insurance risks for the entire period of cultivation;
- Application form for insurance of winter grain crops with state support against agricultural insurance risks for the entire period of cultivation;
- forms of the List of crop plots of the insured crop;
- the form of the Inspection Report of the insured crops and instructions for its completion [16].

These changes in agricultural insurance should lead to an increase in farmers’ confidence and an increase in the volume of insurance of agricultural products, livestock and machinery, as well as an increase in the number of companies engaged in agricultural insurance.

To solve the existing problems in Ukraine, the following measures should be taken:
1. To improve the quality of service of insurance companies, to create convenient websites where the client can calculate the cost of insurance at any time.
2. Assess all risks associated with agricultural insurance and reassess insurance rates accordingly.
3. Develop special programs that would cover all stages of agricultural production.
4. The state should consider various methods of stimulating the development of agricultural insurance, which may include subsidizing a part of insurance premiums, creating special funds for compensation of losses, etc.
5. The state should create an environment in which there will be cooperation between insurance companies, agricultural organizations, banks and government agencies in order to create a favorable environment for the development of agricultural insurance.

It is also worth highlighting the prospects for the development of agricultural insurance in Ukraine. Below are some of them:
1. The draft Recovery Plan for Ukraine identifies lending and insurance as the main elements of state support for the agricultural sector for the period 2023-2025, which may result in new agricultural insurance products that will be even more accessible to farmers.
2. Application of the latest technologies in diagnosing risks related to agricultural insurance will help to develop effective insurance strategies.
3. The development of new insurance products could increase interest in insurance and help reduce risks.

Given the prospects for insurance development in the Ukrainian agricultural sector, it can be concluded that agricultural insurance has the potential for further development. The development of the insurance market can lead to an increase in the number of insurance products that meet the needs of farmers and have an affordable price. The use of new technologies and the development of new insurance products can help reduce risks and increase farmers’ interest in insurance.

Thus, taking into account these factors, agricultural insurance can become an important tool for protecting farmers from the negative effects of various risks and help develop Ukraine’s agricultural sector.

Conclusions from this study and prospects for further research in this direction. According to the above, the concept of agricultural insurance is a rather important component of the sustainable development of the agricultural sector. In Ukraine, agricultural insurance is currently provided by a small number of companies, including PZU, Universalna, Krayina, and UPSK. Their services are quite limited, which may be due to the low demand from farmers.

In foreign countries, agricultural insurance is a widespread practice that allows farmers to reduce the risks associated with weather-related losses, protect their investments, and ensure stability in production. In the countries studied in this paper, the goal of agricultural insurance is quite similar, namely to ensure financial stability, although each country has different mechanisms to support agricultural insurance, such as subsidies, development of insurance programs and insurance products with state support, introduction of compulsory agricultural insurance, and reinsurance of losses through the state reinsurance service.

State support for agrarians in Ukraine is currently being actively transformed. The Resolution «On Approval of the Procedure for Providing State Support for Agricultural Insurance» provides for reimbursement of part of the insurance premiums to insureds, which will ensure their financial stability in the context of the unstable Ukrainian economy. In addition to this resolution, the Ministry of Agrarian Policy also plans to develop a mechanism for winter crops insurance.

However, agri-insurance is currently quite unpopular and has problems, including farmers’ distrust of insurance companies, unbalanced tariffs, lack of multi-risk insurance, and the absence of a guarantee mechanism from the state. Several steps need to be taken to address these problems. First, it is necessary to increase farmers’ confidence in insurance companies by improving the quality of service and transparency of insurance terms. Next, it is important to revise agricultural insurance tariffs to reflect actual risks and ensure the availability of centralized statistical information. In addition, it is necessary to actively promote and support multi-risk insurance throughout the entire crop production cycle. The state can play an important role by providing financial support, guarantees and creating
a favorable environment for the development of agricultural insurance. In addition, it is important to develop a loss assessment infrastructure and provide advisory support to farmers. The path to successful development of agri-insurance in Ukraine lies in a comprehensive approach, cooperation between different stakeholders and government support.

REFERENCES: