

# The Czech agricultural insurance market and a prediction of its development in the context of the European Union

## *Český trh zemědělského pojištění a predikce jeho vývoje v podmínkách Evropské unie*

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**Abstract:** In the market economy, agriculture ranks among the important political and economic issues. Risks associated with agricultural activity can be catastrophic. For farmers and farms, damages resulting from materialized risks represent significant and existence-threatening problems. For the state, damages in agriculture can endanger the food supply chain, cause fluctuation in employment or jeopardize the state's foreign-policy position due to lack of self-sufficiency. This is why it is necessary to discuss the methods and ways to deal with the problem, to eliminate agricultural risks or to minimize their occurrence and materialization. One of the possible ways is insurance. With regard to these facts, the author attempts to make an analysis of the possible ways to eliminate risks that endanger agricultural production and, according to this analysis, to describe the basic approaches to minimizing or eliminating the materialization of risks associated with agricultural activity. Subsequently, the author focuses on agricultural insurance systems in the countries of the European Union, and on the present-day situation in the field of agricultural insurance in the Czech Republic.

**Key words:** agricultural production, Common Agricultural Policy, agricultural insurance system, risk elimination, insurance subsidies, commercial insurance company, crop insurance, livestock insurance

**Abstrakt:** Zemědělská problematika patří v tržní ekonomice k důležitým politickým a ekonomickým otázkám. Rizika, která doprovázejí zemědělskou činnost, mohou dosáhnout až katastrofických rozměrů. Pro zemědělce a zemědělské podniky znamenají následky škod způsobené realizací rizik značné existenční problémy. Pro stát mohou škody v zemědělství znamenat ohrožení jeho potravinové bezpečnosti, výkyvy v oblasti zaměstnanosti nebo ztížení zahraničně politické pozice státu z důvodu jeho nesoběstačnosti. Proto je nutné zabývat se způsoby a metodami řešení problému, jak eliminovat rizika v zemědělské činnosti nebo omezit míru jejich výskytu a realizace na minimum. Jedním z možných způsobů eliminace je pojištění. Autorka se v této souvislosti zabývá analýzou možných způsobů eliminace rizik ohrožujících zemědělskou produkci a na základě této analýzy charakterizuje základní přístupy k omezení či odstranění realizace rizik vyskytujících se při zemědělské činnosti. Rozbor možností eliminace rizik je zaměřen na systémy zemědělského pojištění v zemích Evropské unie a na současnou situaci v zemědělském pojištění v České republice. V České republice v současnosti existuje státní finanční podpora zemědělského pojištění. Stát prostřednictvím Podpůrného garančního rolnického a lesnického fondu (PGRLF) přispívá pojištěným zemědělským subjektům na pojistné při pojištění plodin až do výše 30 % a na pojistné v pojištění nálezů hospodářských zvířat až do výše 15 %. Zemědělské pojištění nabízelo ve svém portfoliu v roce 2004 sedm pojišťoven, avšak aktivní krytí zemědělských rizik nabízely v daném roce pouze tři z nich. Přesto bylo v roce 2004 v zemědělském pojištění dosaženo nadprůměrných výsledků. Předepsané pojistné v zemědělském pojištění v pojišťovnách sdružených v České asociaci pojišťoven dosáhlo 869 mil. Kč, z toho 534 mil. Kč v pojištění plodin a 335 mil. Kč v pojištění hospodářských zvířat. Škodní průběh v rámci zemědělského pojištění dosáhl 43 %.

**Klíčová slova:** zemědělská produkce, Společná zemědělská politika, systém zemědělského pojištění, eliminace rizika, dotace na pojistné, komerční pojišťovna, pojištění plodin, pojištění hospodářských zvířat

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Agricultural risk insurance is a risk insurance against accidental and unpredictable events that endanger primary production and that cannot at all or can only partly be influenced. It includes, above all, crop and livestock insurance but also property insurance such as the insurance of movables and immovables, machinery and motor vehicles, or property damage liability insurance etc., which practically falls into the category of industrial and business risks. Specific agricultural insurance products are, in particular, crop insurance and livestock insurance, although no less important are forest insurance, farmers' personal insurance (which also includes life insurance), and professional malpractice insurance. In the Czech Republic, an annex to the Law No. 363/1999 Coll. (On the Insurance Industry), as amended by the Law No. 39/2004 Coll., classifies agricultural risk insurance as a kind of non-life insurance falling into the category of property insurance (Příkryl, Čechová 2001).

The aim of this article is to make an analysis of the possible ways to eliminate risks that endanger agricultural production and, according to this analysis, to describe the basic approaches to minimizing or eliminating the materialization of risks associated with agricultural activity. The analysis focuses on agricultural insurance systems in the countries of the European Union, and on the present-day situation in the field of agricultural insurance in the Czech Republic.

## MATERIAL AND METHODS

The agricultural insurance system performs a number of functions (Hardaker 1999). One of them is benefit for the society. As agricultural insurance reduces risks associated with agricultural production, farmers are guaranteed a steady income. Since agricultural production takes place mainly in agrarian areas, typically characterized by a rural environment, this income ensures security of the country population.

The second function of agricultural insurance is, too, related with the rural environment. The state-supported system of agricultural insurance enables social interconnection and stability of rural areas. The system allows compensation payments in order to maintain income and to keep agricultural producers viable, which is significant because they can continue with production without a dangerous increase in debts.

The third function agricultural risk insurance performs is the fact that it can act as a guarantee when

asking for loans, as it is an instrument that ensures the primary producer's solvency even in case of unpredictable events.

From the perspective of risk management, farmers and farms endangered mainly by natural hazards can benefit, above all, from the division and diversification of risks, and insurance.

There are numerous, variable risks that influence agriculture. The main risks that influence decision-making and management in agriculture are (Hardaker 1999):

- *climatic* – risks of unpredicted and unpredictable weather-related events, i.e. the impact of climatic and meteorological effects on agricultural production;
- *production-related* – risks arising from factors such as pests, crop and livestock diseases, and the influence of machinery on the final agricultural production;
- *economic* – risks associated with price fluctuation of both inputs and outputs on the agricultural product market, arising from unpredictable market trends;
- *commercial and financial* – risks posed by the influence of other production and non-production sectors;
- *institutional* – risks that arise from changes in the agricultural policy (in the EU, the impact of the CAP – Common Agricultural Policy), with regard to the regulation of agricultural production or trade;
- *environmental* – risks arising from adverse effects of specific forms of management on the environment, and from the impact of other companies' activity on agriculture.

Of these risks, some are insurable and some are not. In the Czech Republic, just like in most European countries, non-insurable risks include institutional risks and risks related to the fluctuation of agricultural commodity prices. All other risks can be insured on the Czech insurance market provided that certain conditions are met. As for crop production, there are insurance products related to natural hazards such as hailstorm, fire, floods, windstorm, spring frost and winter injury. For livestock production, there are insurance products that cover risks of infection (categorized as either dangerous or very dangerous infections, according to the Law No. 66/1999 Coll.) and other damages such as natural hazards, non-infectious diseases or livestock injuries.

Since agriculture represents the sector of the national economy which is, to a considerable extent, influenced by the materialization of accidental negative events, it is essential to at least try to prevent the

possible losses by a suitable form of agricultural risk management. Risk management in agriculture has a lot of aspects (Williams et al. 1995). It includes the introduction of suitable and appropriate machinery into production, diversification of production, as well as schemes based on specific financial management and on the transfer of risks onto the insurance company.

There are three instruments utilized in the field of agricultural risk management:

- a) funds to cover catastrophic impacts of natural disasters (in some EU countries);
- b) the use of specific financial instruments, e.g. a fund obtained as a reserve from profit generated during years of economic success (introduced in the OECD countries);
- c) a system of agricultural insurance, which seems to be the most rational, comprehensive and systematically sophisticated way of risk management.

The more structured agriculture becomes, the more it is prone to the materialization of risks. This led the Czech Ministry of Agriculture to the introduction of a number of measures aimed at reducing the rate of risk in agricultural production. This includes, above all, the following measures: creation of reserve funds, establishment of an infection fund, creation of a general fund for the elimination of disaster impacts, establishment of a state-supported insurance company (the original joint-stock company Chmelařská pojišťovna, in which the PGRLF (Podpůrný garanční rolnický a lesnický fond, a.s. – Support and Guarantee Agricultural and Forestry Fund; from now on referred to as the “PGRLF”) had a share of 32%, has become part of ČSOB Pojišťovna, now in the form of the ČSOB Pojišťovna, a.s., member of the ČSOB holding), or support for insurance within subsidy classes. Here, too, insurance seems to be one of the best possible ways to cover risks.

## RESULTS AND DISCUSSION

Since 1991, agricultural risk insurance in the Czech Republic has stagnated on a not very acceptable level. In case of adverse weather conditions, the problem was dealt with in a non-systemic way. It was not before 2004 that the PGRLF started the “Agricultural Insurance Support” programme. Its goal is to give access to insurance protection to a wider range of farmers. The programme is for people who run an agricultural production business according to Section 2, Subsection 2 of the Law No. 513/1991 Coll. In particular, it provides a state financial support

to livestock infection insurance of 15% and a crop insurance support of 30% of substantiated insurance costs. However, this programme does not cover non-insurable risks such as drought; this is why an *ad hoc* aid in case of catastrophic events is not an optimum solution for the future. Neither farmers nor insurance companies can deal with this issue. The state needs to support the development of a new conceptual system of financing risks in agricultural insurance – one that would be compliant with the EU agricultural policy.

The Czech Ministry of Agriculture tried to find a solution in 2000, when it started the agricultural insurance support programme, subsidy class 8D “Infection Insurance Support” (Vávrová 2000). The provision of this support was conditional upon the availability of finance on the part of the supporter, i.e. the Ministry of Agriculture, which in 2003 proved to be a significant problem. In 2001, the support provided to farms and farmers was extended to cover crop production as well. The amount of subsidy for insurance premiums paid in relation to livestock infections was set to 35%, and 10% for crop insurance against natural hazards. The positive influence of the support was reflected by an increase in premiums concerning both crop and livestock. In that year, livestock insurance witnessed an interannual increase of 9.2% (measured by the stipulated premium); for crop insurance the increase was 11.7%. Subsidy rates were slightly modified in 2002. A grower who had concluded a contract of insurance against the materialization of natural hazards was given a support of 20% of the substantiated costs, and a breeder who had signed a contract with a commercial insurance company to cover for livestock infection was given a support of up to 30% of the substantiated costs. However, such a solution proved to be non-systemic as in 2003 subsidy classes were not paid because the supporter lacked financial means (Vávrová, Stojarová 2005). Therefore, it can be seen as a positive and motivating fact that as of 2004, the amount of financial means allocated for agricultural insurance support by the PGRLF is well determined and does not require drawing funds from other programmes.

Table 1. Insurance subsidies in the Czech Republic between 2001 and 2004 (CZK millions)

Year	2001	2002	2003	2004
Insurance subsidies	123	95	0	200

Source: Research Institute of Agricultural Economics (VÚZE) Prague, 2004

The Table 1 gives an overview of agricultural insurance subsidies obtained between 2001 and 2004.

At present, there are three possible systemic solutions to agricultural insurance support in the Czech Republic:

1. Establishment of a specialized, state-owned insurance company that offers agricultural insurance.
2. Compensations paid from the EU funds to farmers for profit lost due to the materialization of climatic risks.
3. Commercial insurance with the support of the state.

As the first solution fails to comply with the anti-monopoly law and the second one may not be acceptable within the EU, the only solution that is viable under the current circumstances is the third one, i.e. a commercial insurance with the support of the state. In the Czech Republic, the state agricultural policy is part of the Ministry of Agriculture's programme "Concept of the Czech Agrarian Policy after the EU Accession (2004–2013)".

Agricultural insurance subsidies represent a financial instrument utilized in the European Union, the USA, Canada and other countries in order to allow farms and farmers to arrange the necessary insurance. State subsidies are usually the subject of far-reaching political discussions, and providing money from public resources is examined from the viewpoint of both spending efficiency and fair competition. The reason why agricultural insurance support should be provided is the fact that there are more risks in agriculture compared to other sectors, and the efforts to limit non-quantifiable state support to farmers affected by natural disasters or livestock infections by transferring the impacts onto insurance companies. This is why the World Trade Organization (WTO) has put agricultural insurance support into the "green box"<sup>1</sup> of state subsidies provided to the agricultural sector, i.e. those that are allowed with no restrictions. In the USA, as well as for example in Spain, agricultural insurance support is a key part of the government's agricultural policy.

At present, the European Union – within the Common Agricultural Policy (CAP – Agenda 2000) – agrees with the provision of support up to 80% of

the agricultural insurance costs. Until today, agricultural insurance support in the EU has been the responsibility of the individual Member States, and the scope of the support differs from country to country, as far as the degree to which the state participates in dealing with the riskiness of agriculture is concerned; see below. This influences the farmers' competitiveness, as in different EU countries they have different insurance costs.

In 2003 in Thessaloniki, Greece, a European conference on agricultural insurance was held, which focused on enforcing agricultural insurance support from the EU resources, too. The conference stressed the importance of agricultural insurance as the most effective instrument of minimizing the impact of risks on farmers (Vilhelm 2004). It was stated that the riskiness of agricultural production is on the increase. One of the reasons is the recent climatic development: extreme weather-related events are becoming increasingly common. Infection among farm animals represents a similar danger for livestock production. Recent examples include hog cholera in the Netherlands and Germany, foot-and-mouth disease in the UK, and BSE cases found in most European countries. As for crop production, the drought in 2000 or the 2002 floods in Central Europe can be mentioned. There has been a steady increase in the number of days with extremely high and extremely low temperatures. The precipitation tendency is similar. One of the discussed possibilities of supporting agricultural insurance at the EU level was the establishment of the European Reinsurance Pool, proposed by the Agricultural Insurance Committee of the CEA (Comité Européen des Assurances).

Agricultural insurance systems based on cooperation between the private and the public sector is utilized, for instance, in the USA, Canada, Spain, Portugal, Greece, Austria etc. In these countries, state subsidies enable farms to arrange insurance providing the necessary coverage (Vilhelm, Mesršmid 2004). Support in the above-mentioned countries made it possible to significantly extend the range of insurable agricultural risks, and to considerably reduce the amount of state support after natural disasters, as the necessary farmer compensations are paid in the form of insurance benefit.

<sup>1</sup> The Green box includes measures that have minimum or zero impact on trading in agricultural products or the production itself. These include general services, storage of public supplies ensuring the functioning of the food supply chain, food supplies provided to socially weak population groups, as well as subsidies in the form of direct payments not related to production. These are subsidies supporting farmers' income, governmental financial participation in farmer income insurance, payments that are part of the support given after natural disasters and provided either directly by the government or through the government's financial participation in crop insurance programmes.

## AGRICULTURAL INSURANCE IN SOME EU COUNTRIES

### Spain

In the EU context, the most extensive statutory system of agricultural insurance based on cooperation between the public and the private sector is in Spain. The state plays a crucial role in the system by providing subsidy for insurance premiums and reinsurance. The private sector is integrated into the system and contributes to the coverage of a part of the risk. Crop insurance provides a comprehensive risk coverage (hailstorms, fire, windstorms, frost, floods, rain, drought, diseases and pests). Livestock insurance is important as well. Approximately one half of agricultural insurance premiums is subsidized by the state. The insurance is provided by insurance companies associated with the Agroseguro insurance pool.

There is a similar system of subsidized agricultural insurance in Portugal, too.

### Austria

The Austrian system of agricultural insurance is mostly private. Crop insurance covers the risk of hailstorm, frost and other risks including drought, and is provided by the Austrian Hail Insurance Company (Österreichische Hagelversicherung). After the EU accession, the range of insurable risks was extended and the state insurance support was increased. Since 1995, insurance premium has been subsidized by 50% as follows: 25% from the state Disaster Fund and 25% from the budgets of the individual federal states. Insurance penetration in crop production reaches approximately 80% of agricultural areas, i.e. more than twice as much as in the Czech Republic at the present time.

### Greece

In Greece, a new system of obligatory agricultural insurance has been introduced by the Ministry of Agriculture and the Greek Agricultural Insurance Association (ELGA). The state collects obligatory contributions via its insurance company and guarantees the coverage for damages. Apart from that, commercial insurance is offered but the role of the private sector is restricted to a great extent. The system is undergoing a reform at present.

### Italy

The agricultural insurance system is mostly private. The insurance is provided by several commer-

cial insurance companies. Crop insurance subsidies are provided by the National Solidarity Fund for Agriculture. The amount of subsidy is specified by law every year. Usually, 40% covers hail insurance support and 60% represents direct support in case of natural disasters. The Fund covers 50% of crop insurance premium.

### France

In France, there is a predominantly private system of agricultural insurance provided by several commercial insurance companies. The state partly subsidizes hail insurance. To cover non-insurable crop damages, the National Fund for Agricultural Disasters (FNGCA) has been established. 50% of the fund finances are provided by the state and 50% by farmers in the form of insurance tax. Insurance benefit is paid from the fund provided that the natural disaster is officially acknowledged and that the affected farmer has a contract of insurance. Insurance of multiple risks concerning wine and oil plants has been in effect since 2001. Professional organisations require that the system be extended.

### Germany

The German agricultural insurance system is mainly private. There are several insurance companies offering crop insurance; they provide hail insurance, which in the new federal countries is extended to cover other natural hazards as well. Insurance penetration is more than 70% of all agricultural areas. Livestock insurance is utilized mostly by big farms breeding cattle and hogs. More than 50% of all milk producers and more than 80% of large dairy farms are currently insured against infections and other diseases. Approximately 40% of sow breeds and more than 25% of large hog-fattening companies are insured. This insurance is provided without state subsidies.

### Slovakia

Agricultural insurance is subsidized by the Ministry of Agriculture by 50%. Before 2002, when the subsidy was increased, it was 20%. The support of agricultural insurance caused increased interest in agricultural insurance in recent years. Since the insurance covers certain risks only, it is necessary to cover the impact of disasters from other resources, as it was the case of the abnormal drought in 2000, when 5.9 billion SKK was allocated beyond the budget of the Slovak Ministry of Agriculture. The subsidy amounts for a

partial coverage of agricultural insurance premium represent just a small proportion in the damages caused by catastrophes. For example in 1998, damages arising from floods were estimated to 1.5 billion SKK, and in 1999 up to 1.7 billion SKK (Bibzová 2005). This is why state support is inevitable in case of extensive natural disasters.

The support of agricultural insurance is provided in other EU countries, too. For instance in Hungary it is 30%, in Lithuania 35–40%, and in Cyprus agricultural insurance is stipulated by law.

## THE SITUATION IN THE CZECH AGRICULTURAL INSURANCE MARKET

The above-mentioned facts regarding agricultural insurance in Europe are stimulating for searching the optimum way of risk elimination in Czech agriculture as well. The current level of insurance penetration represents approximately one third of all crop areas and more than 90% of all livestock breeding. In the Czech Republic, agricultural insurance has been supported since 2000. As mentioned above, it is provided in the form of a partial reimbursement of costs paid by farmers on insurance against dangerous livestock infections. Since 2001, support has been provided to growers also in the form of covering a part of costs associated with crop insurance against natural hazards. Every year the support depended on the availability of a sufficient amount of financial means left over from other programmes. In 2000 and 2001, these subsidies were paid in full; in 2002, subsidies to crop insurance were paid in full as well, which at that time equalled 10% of crop insurance costs. The livestock infections insurance had to be reduced to a certain extent, the subsidy, however, represented 20.4% of the costs paid by farmers on insurance against livestock infections. However, in 2003, when breeders requested infection insurance support of almost 68 million CZK and insured growers wanted almost 90 million CZK, no insurance subsidies were paid.

By supporting agricultural insurance, the Ministry signals to farmers to arrange insurance for unusual events, which in the future should minimize the Ministry's need to ask the Government for additional financial compensations in case of agricultural damages.

The Czech agricultural insurance market has recently undergone a relatively difficult period, during which several insurance companies terminated their activity in the field of crop and livestock insurance. The reason was a long-term difficult economic situation in agriculture, which did not provide the conditions

needed for a more significant increase in insurance penetration. Another reason were the unsatisfactory results in the field of crop insurance in relation to climatic changes coupled with a more frequent extreme fluctuation of the weather, and in particular with the frequent occurrence of hailstorms in recent years. At the same time, the insurance market has been negatively influenced by a considerable increase in reinsurance prices (Čejková, Vávrová 2004).

The development of the number of insurance companies in the Czech Republic after the demonopolization of the insurance industry, together with the number of insurance companies providing agricultural insurance, is given in the Table 2.

In 2004, seven insurance companies offered agricultural insurance in their portfolio. A remarkable fact is that only three of them provided an active covering of agricultural risks. Despite this fact, above-average results were achieved in 2004 as far as agricultural insurance is concerned. The prescribed agricultural insurance premium in insurance companies associated in the Czech Insurance Association (ČAP) reached 869 million CZK, of which 534 million in crop insurance and 335 million in livestock insurance. The loss record within agricultural insurance reached 43%.

Table 2. The development of the number of insurance companies in the CR between 1991 and 2004

Year	Overall number of insurance companies	Of which those providing agricultural insurance
1991	3	1
1992	12	1
1993	20	1
1994	27	1
1995	35	4
1996	35	10
1997	40	10
1998	41	10
1999	43	9
2000	41	9
2001	43	8
2002	42	8
2003	42	8
2004	42	7

Source: Annual reports of the Czech Insurance Association 1991–2003, [www.cap.cz](http://www.cap.cz)

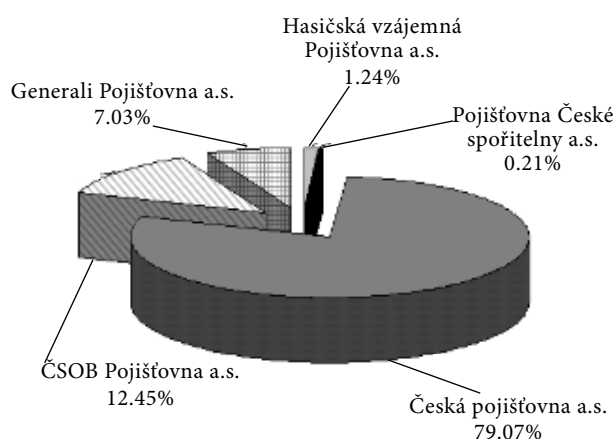


Figure 1. Insurance companies' share in the agricultural insurance market in 2003

Source: Research Institute of Agricultural Economics (VÚZE) Prague, 2003

In 2003, agricultural insurance was offered actively only by the Česká pojišťovna, the ČSOB Pojišťovna, the Generali Pojišťovna, the Pojišťovna České spořitelny and the Hasičská vzájemná pojišťovna. Their share in the agricultural insurance market in 2003 is shown in the Figure 1.

Looking at the range of insurance products offered by members of the Czech Insurance Association, as of 30 April 2005, the following five insurance companies offer crop and livestock insurance within insurance branch No. 10, "Insurance of other material damages", which includes all material damages not mentioned in branches 4–9:

1. Česká podnikatelská pojišťovna a.s.
2. Česká pojišťovna a.s.
3. ČSOB Pojišťovna a.s., member of the ČSOB holding
4. Generali Pojišťovna a.s.
5. Hasičská vzájemná pojišťovna a.s.

During 2001–2004, the number of insurance companies offering agricultural risk covering was reduced. Several insurance companies left the agricultural insurance market, namely: the Česká podnikatelská pojišťovna, the UNIQA pojišťovna, the Pojišťovna České spořitelny, the Kooperativa pojišťovna and the Pojišťovna Slavia (Vávrová 2000). It is interesting that the ČSOB Pojišťovna left the sector of agricultural insurance during 2004 even though in 2003 it ranked as the second largest in the agricultural insurance market (with the share of 12.45%), following the Česká pojišťovna whose share was 79.07%. Recently, an acquisition of the Česká podnikatelská pojišťovna took place, whose insurance portfolio was bought by

the Kooperativa on 10 May 2005 (so far not approved by the Czech Ministry of Finance and the Office for the Protection of Competition). We can say that currently only the Česká pojišťovna, the Generali Pojišťovna and the Hasičská vzájemná pojišťovna actively deal with the covering of agricultural risks in the Czech Republic.

## CONCLUSION

Agricultural insurance is an active and functional tool supporting stability in the field of agricultural business. It diversifies the rate of risk, which would otherwise be borne by the farmers themselves, giving them a chance to continuously carry out their business even in case of a total production failure. Especially for these functions and features, the support and development of the agricultural insurance system is in the public interest. In a functioning agricultural insurance system, standard and systemic solutions are ready in the event of a disaster, so there is no need to search for ways to deal with the situation. Additional support may be inefficient in some cases, and may be abused.

The aim of the author is to contribute to the analysis of the possible ways to eliminate risks that endanger agricultural production. According to this analysis, more attention must be given to the support and development of the functional system of the agricultural insurance in the Czech Republic and in the European Union – within the Common Agricultural Policy. The author is planning to continue in her research focused on this priority and to provide some recommendations for minimizing or eliminating the risks associated with agricultural production at both the national and the EU-level.

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