

DOI: 10.12731/2218-7405-2013-7-41

BETTERMENT OF THE STATE SUPPORT FOR AGRICULTURAL INSURANCE IN RUSSIA

Piterskaya L.Y., Tlisheva N.A.

The authors have developed some proposals on improving the procedure of determining conditions for providing a state support to insurance of agricultural crops. The author's approach has the following differential characteristics: when determining the period of investigation it is takes into account the factor of the yield cyclical; the main calculated indicator when the occurrence of an insured event is been proved is the average in agro-climatic zones coefficient of variation of the crop.

Keywords: agricultural, state, risks, loss of crop yield, climatic zones, insurance, cereals, Krasnodar krai.

СОВЕРШЕНСТВОВАНИЕ ГОСУДАРСТВЕННОЙ ПОДДЕРЖКИ СЕЛЬСКОХОЗЯЙСТВЕННОГО СТРАХОВАНИЯ В РОССИИ

Питерская Л.Ю., Тлишева Н.А.

Авторы разработали ряд предложений по совершенствованию методики определения условий предоставления государственной поддержки страхования урожая сельскохозяйственных культур. Авторский подход имеет следующие отличительные характеристики: при определении периода исследования урожайности учитывается фактор ее цикличности; основным расчётным показателем при обосновании наступления страхового случая является средний по агроклиматическим зонам коэффициент вариации урожайности соответствующей культуры.

Ключевые слова: сельскохозяйственный, государственный, риски, утрата урожая, агроклиматические зоны, страхование, зерновые культуры, Краснодарский край.

Numbers of positive and negative points characterize modern condition of insurance in agriculture. To the positive side can be refer to the fact that state has appreciated higher risks of agricultural, economic and social importance of this sector and has took engagements to support agriculture insurance. At the same time, as practice has shown, using this tool of support for agriculture is difficult. It can be explain by several organizational and methodical causes. Specificity of the development of the insurance market in Russia consists in that the mechanism of insurance hampers the provision of assistance to agricultural producers; agricultural insurance is not favorable for both insurers and policyholders.

Agricultural insurance in Russia is a type of property insurance sector. Subjects of insurance, according to the rules of insurance with state support in the Russian Federation, include insurers and policyholders.

Subsidies to agricultural producers of Russia currently provided by the state as reimbursement to insurers 50 % of insurance payments. Insured accident is a loss of the harvest at the rate of 30% or more of the five-year average (over the five years preceding the conclusion of the insurance contract) because of the implementation of agrarian risks.

Numerical indicators of the insurance market in Russia in 2010 show the forecast values [12, p. 29]. However, the share of insurance premiums in GDP remains reduction (Fig. 1).

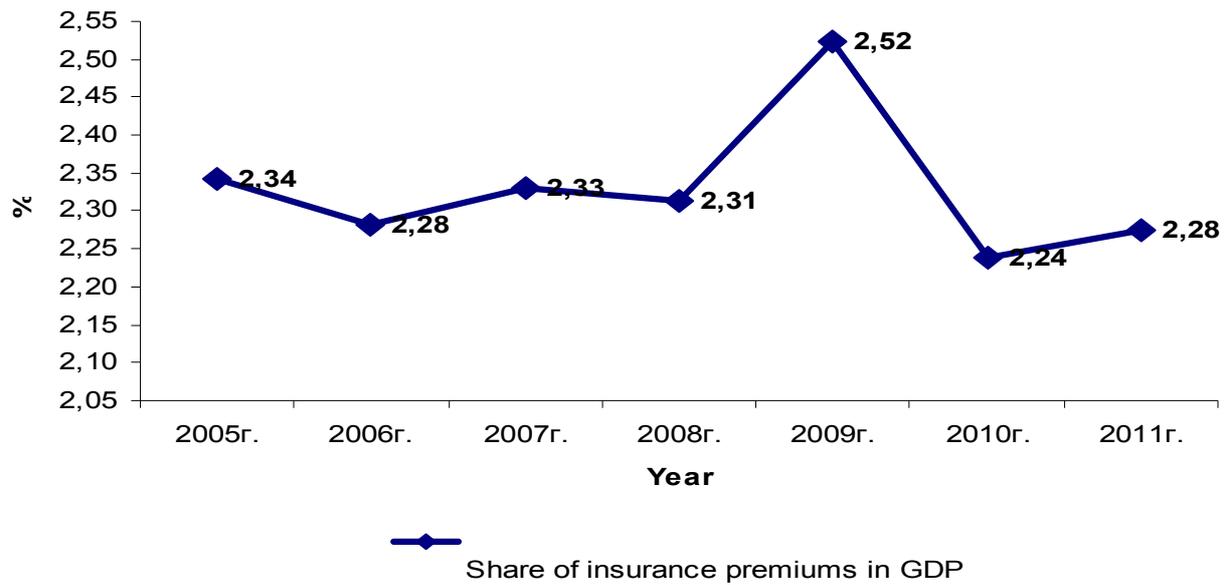


Fig. 1. The share of insurance premiums in GDP in Russia

The share of agricultural insurance premiums in the structure of property insurance premiums in the Russian Federation accounts for only 4 % (Fig. 2) [13].

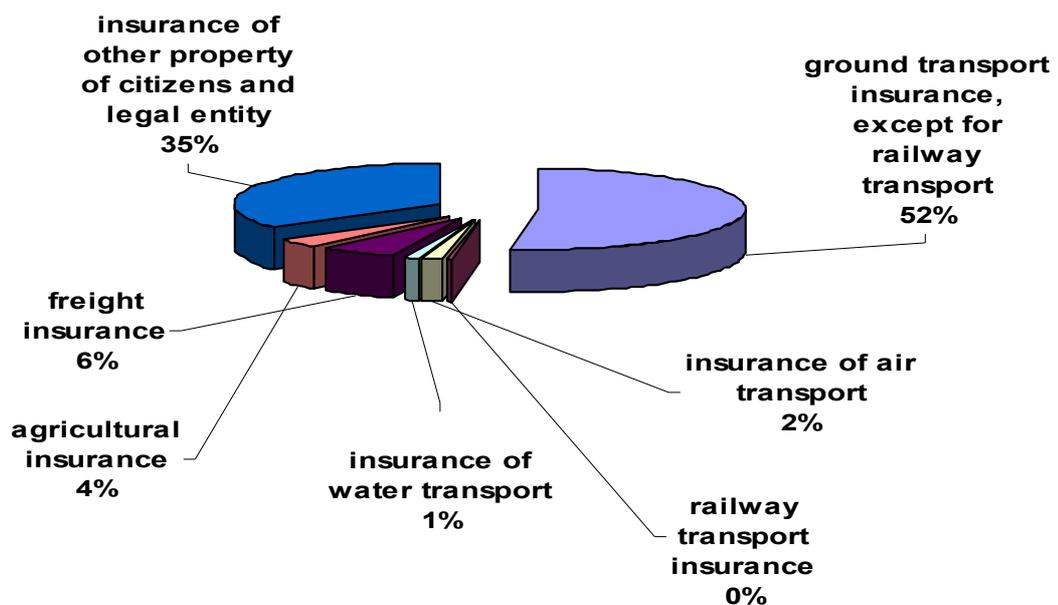
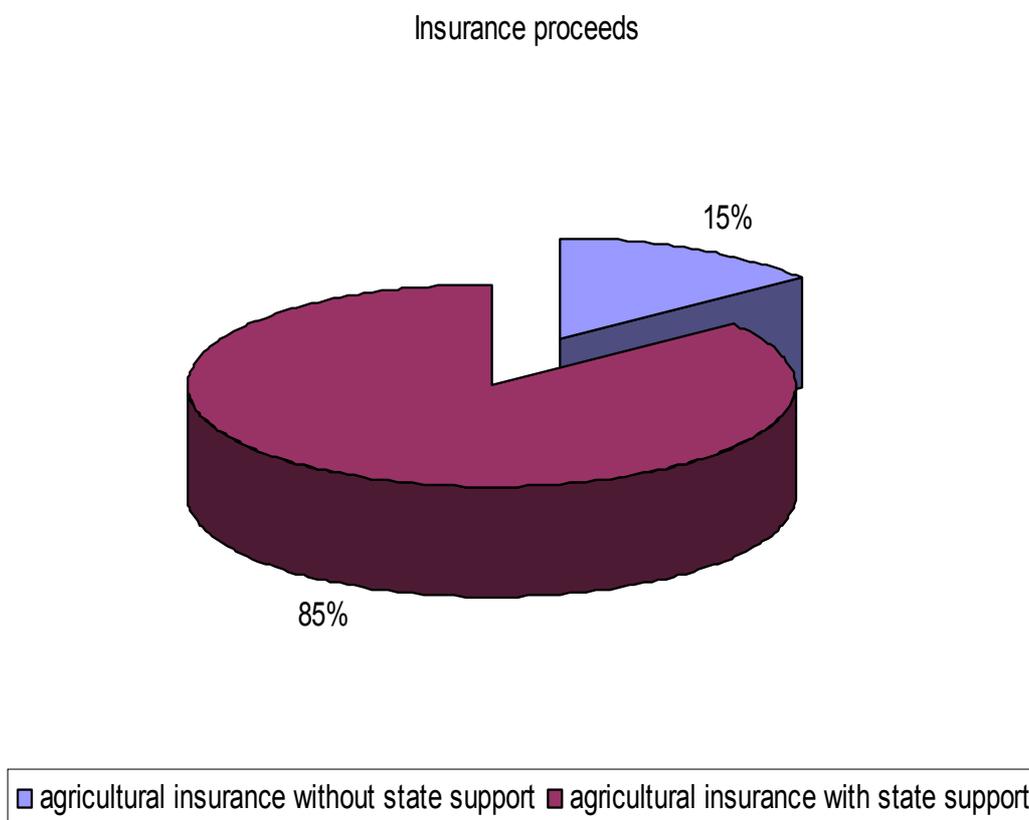


Fig. 2. Structure of insurance premiums on voluntary insurance of property in 2012 in Russia, %

Agricultural producers have requested to the companies belonging to the national Union of agro insurers in Russia (NUA) for insurance services with state support in 2012 by 77.7% more farms than in the previous year. These are the results of calculations made by the management of analytical accounting and analysis of NUA. There were more than 3300 farms in 2012 (in 2011 - almost 1900) which was clients of the companies-members of the NUA and had contracts for the subsidized agricultural insurance. The number of concluded insurance contracts increased by 43.1% - from 2800 up to 4000. The land under crop covered by these agreements, increased to a lesser extent - by 12.1% from 7.4 million to 8.3 million hectares [7].

In the Krasnodar krai the share of proceeds and payments for agricultural insurance with state support in 2012, more than without state supports (Fig. 3) [4, 5].



Insurance payments

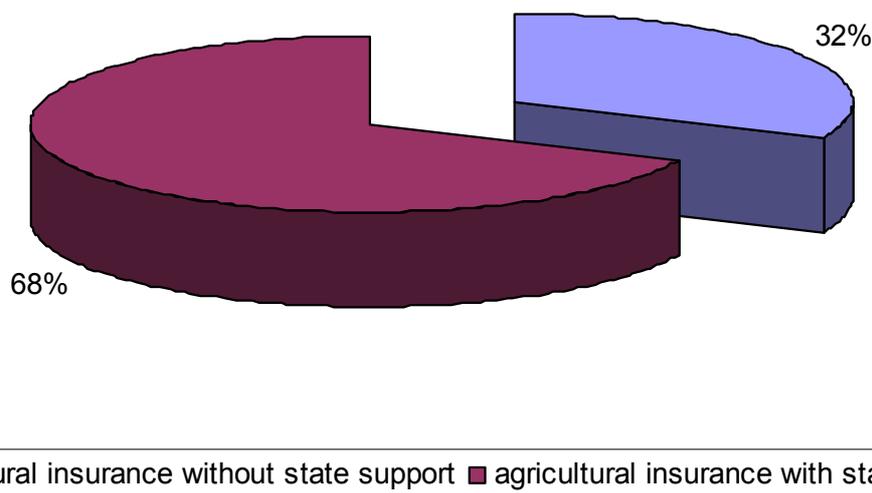


Fig. 3. Insurance with state support in the structure of proceeds and payments in the agricultural segment of the market of insurance services of Krasnodar krai in 2012, %

The experience of the United States of America testifies to the necessity of improving the mechanism of insurance of harvest in the part of unified standards of accounting the damage throughout Russia, where its diverse agro-climatic, socio-economic environment in which integrated market of insurance services with state participation characterizes each region.

Rainfall Index (RI) is based on weather data collected and maintained by the National Oceanic and Atmospheric Administration's Climate Prediction Center. The index reflects how much precipitation is received relative to the long-term average for a specified area and timeframe. The program divides the country into six regions due to different weather patterns, with pilots available in select counties. Vegetation Index (VI) is based on the U.S. Geological Survey's Earth Resources Observation and Science (EROS) normalized difference vegetation index (NDVI) data derived from satellites observing long-term changes in greenness of vegetation of the earth since

1989. The program divides the country into six regions due to different weather patterns, with pilots available in select counties [15].

Having studied the dynamics of productivity of grain and leguminous crops in areas of Krasnodar krai, we found that most of them could count on assistance from the state, if such a mechanism of calculation of the loss of the harvest was used in 1998-2005 years (Fig. 4).

However, the law [14] was passed by the State Duma in 2011, and it makes difficult to obtain state support precisely because the loss of harvest in 30% and more accepted everywhere in Russia, where agro-climatic, geological and other natural conditions differ from region to region.

We offer different method of determination of, differentiating lands depending on the agro-climatic zones and explaining the occurrence of insured accident for different agricultural crops because of the variability of yield that is measured by coefficient of variation of productivity for appropriate culture [8, 9].

Description of the method is provided below (as an example - for agro climatic zones of cereal crop cultivation in Krasnodar krai). The coefficient of variation is determined by the formula (1) [3, p. 235]:

$$V = \frac{\sigma_g}{\bar{x}_g} \times 100\% \quad (1)$$

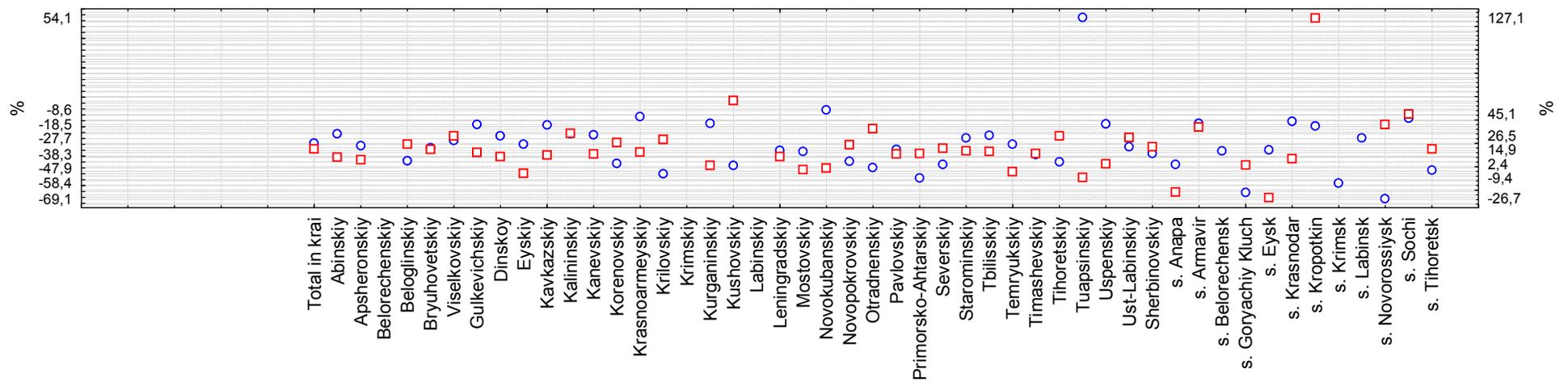
where:

V – coefficient of variation,

σ_g - sample standard deviation,

\bar{x}_d - sample mean.

We determined coefficient of variation based on period equal to 12 years. This period was taken, because it is a multiple of the period of the cyclic of productivity. Cycle of productivity was determined because of the studying of harvest dynamic for 1958-2011 years (based on Institute of official statistic's researches) [1, 6]. Dynamic range of crop was subjected to Fourier analysis on which was built the schedule of spectral density. The spectral density took its maximum value at point 3.



Rayon (sity) or krai

- crop yield in 1998 in percentage of the average in 1991-1995 (on the right side)
- crop yield in 2005 in percentage of the average in 2000-2004 (on the left side)

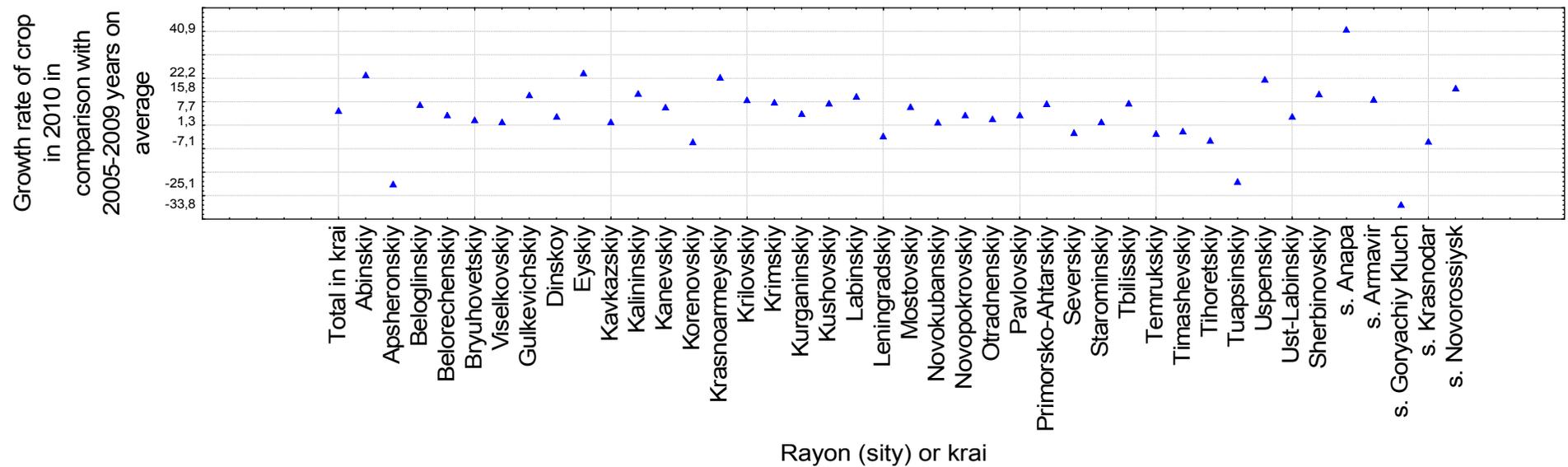


Fig. 4. Implementation of the insured event 30 % crop's loss of in Krasnodar krai in 1998, 2005 and 2010

Thus, been identified cycle and taken period divisible by cycle for studying variance of harvest in 1999-2010 in Krasnodar krai. It is noteworthy that the statistical analysis and assessment of the sustainability of grain production, analyzed by P. S. Bondarenko, L.V. Bondarenko [2], as well as research work A., Prudnikov [10] confirm the accuracy of the received by us result (about cycle's period).

Then, based on agro-climatic zones of Krasnodar krai, dedicated by Ruseeva Z. M. and Narodetskaya Sh. Sh. [11, pp. 21-27], average values of the coefficients of variation of productivity in the regions belonging to one of the five agro-climatic zones have been calculated by us: in dryland, unstable-dewy (unstable-damp), moderately- dewy, dewy, superfluous dewy. The average values are the minimum levels of loss of harvest for the justification of the insured accident in Krasnodar krai.

Oscillations of the coefficients of variation ranging from 9.07 % in to 28, 56 %, so less than 30 %. Thus, none of the districts are not significantly different from each other in the harvest of grain crops.

Minimum decrease in the level of productivity of cereals for the justification of the insured accident in dryland amounted 24 %, in an unstable-damp agro-climate zone – 14 %, in moderately-damp agro-climate – 13 %, in damp agro-climate – 18 %, in superfluous damp – 21 % (Fig. 5).

Proposed in this article the approach to the determination of the insured accident and the loss of harvest (for example loss of productivity of cereals in Krasnodar krai) cardinally differs from method using in Russia, however, it is more rational and fair and can be a basis for the implementation of the agrarian policy in Russia.

4. *Internet-portal «Strahovanie segodnia»* [Internet-portal «Insurance today»]. [http://www.insur-](http://www.insur-in-fo.ru/statistics/analytics/?order=un27®ion=23&datatype=itog¤cy=rub&unAction=a03)

in-

fo.ru/statistics/analytics/?order=un27®ion=23&datatype=itog¤cy=rub&unAction=a03 (accessed June 17, 2013).

5. *Informacia o sostoyanii strahovogo rinka Krasnodarskogo kraia za 2012 god* [Information about the state Krasnodar krai's insurance market in 2012]. <http://finmarket.kubangov.ru/str-sector/pok-str-rinka/main-economic-indicators-of-the-insurance-market/2012/information-for-the-year-2012/> (accessed June 18, 2013).

6. *Krasnodarskii krai 1937-2002* [Krasnodar krai in 1937-2002 years]: stat. compilation]. Krasnodar: Krasnodarstat, 2002. 133 p.

7. Meylanova M. *Ekonomika i gizn* [Economy and Life], no 21/9487 (2013). <http://www.eg-online.ru/article/212607/> (accessed June 17, 2013).

8. Piterskaya L. Y., Tlisheva N. A. *Trudi Kubanskogo gosudarstvennogo agrarnogo universiteta* [WORKS Kuban State Agrarian University], no. 2 (2012): 60-67. <http://elibrary.ru/item.asp?id=17747474> (accessed June 17, 2013).

9. Piterskaya L. Y., Tlisheva N. A. *Trudi Kubanskogo gosudarstvennogo agrarnogo universiteta* [WORKS Kuban State Agrarian University], no. 4 (2012): 18-22. <http://elibrary.ru/item.asp?id=17967211> (accessed June 17, 2013).

10. Prudnikov A. G. *Kratkosrochnii prognoz proizvodstva zerna* [Short-term forecast of grain production]. Moscow: Rosagropromizdat, 1989. 128 p.

11. Ruseeva Z. M., Narodetskaya Sh. Sh. *Agroklimaticheskie resursi Krasnodarskogo kraia* [Agroclimatic resources of Krasnodar krai]. Leningrad: Gidrometeoizdat, 1975. 250 p.

12. Sokolova I. A. *Vestnik KrasGAU* [Journal KrasSAU], no. 7 (2011): 29-34. <http://elibrary.ru/download/25686776.pdf> (accessed June 17, 2013).

13. *Statisticheskie dannie po itogam deyatel'nosti strahovshikov za 2012 god* [Statistical data on the results of activities of insurers for the 2012].

http://www.fcsn.ru/ru/contributors/insurance_industry/statistics/index.php?id_4=269
(accessed June 17, 2013).

14. *Federalnii zakon ot 25 iyulia 2013 goda № 260-FZ «O gosudarstvennoi poddergke v sfere selskohoziastvennogo strahovania i o vnesenii izmenenii v Federalnii zakon «O razvitii selskogo hozyaystva»* [Federal law of July 25, 2011 № 260-FZ «About state support in the sphere of agricultural insurance, and on amendments to the Federal law «About agricultural development»].
<http://www.mcx.ru/documents/document/show/16708.285.htm> (accessed June 17, 2013). дата обращения: 17.06.2013).

15. *Rick Management Agency. Policies. Overview.*
<http://www.rma.usda.gov/policies/#overview> (accessed June 17, 2013).

Список литературы

1. Агропромышленный комплекс Кубани: стат. сб. / Краснодарстат. Краснодар, 2006. 219 с.
2. Бондаренко П. С. Статистический анализ и оценка устойчивости зернового производства / П. С. Бондаренко, Л. В. Бондаренко // Статистика и прикладные исследования: Сборник трудов Всерос. науч. конф. Краснодар: КГАУ, 2011. С. 49-55.
3. Гмурман В. Е. Теория вероятностей и математическая статистика: учеб. пособие. М.: Высшее образование, Юрайт-Издат, 2009. 479 с.
4. Интернет-портал «Страхование сегодня». URL: <http://www.insur-in-fo.ru/statistics/analytics/?order=un27®ion=23&datatype=itog¤cy=rub&unAction=a03> (дата обращения: 17.06.2013).
5. Информация о состоянии страхового рынка Краснодарского края за 2012 год. URL: <http://finmarket.kubangov.ru/str-sector/pok-str-rinka/main-economic-indicators-of-the-insurance-market/2012/information-for-the-year-2012/> (дата обращения: 18.06.2013).

6. Краснодарский край 1937 – 2002 гг.: стат. сб. Краснодарстат. Краснодар, 2002. 133 с.

7. Мейланова М. Агростраховщики задумались о космическом мониторинге посевов // Экономика и жизнь. 31 мая 2013 г. № 21/9487. <http://www.eg-online.ru/article/212607/> (дата обращения: 17.06.2013).

8. Питерская Л. Ю. Страхование урожая, как форма государственного регулирования воспроизводственной деятельности в растениеводстве / Л. Ю. Питерская, Н. А. Тлишева // Труды Кубанского государственного аграрного университета, 2012. №2 (35). С. 60-67. <http://elibrary.ru/item.asp?id=17747474> (дата обращения: 17.06.2013).

9. Питерская Л. Ю. Обоснование условий страховых выплат при страховании урожая сельскохозяйственных культур с государственной поддержкой в Краснодарском крае / Л. Ю. Питерская, Н. А. Тлишева // Труды Кубанского государственного аграрного университета, 2012. №4 (37). С. 18 – 22. <http://elibrary.ru/item.asp?id=17967211> (дата обращения: 17.06.2013).

10. Прудников А. Г. Краткосрочный прогноз производства зерна / А. Г. Прудников. М.: Росагропромиздат, 1989. 128 с.

11. Русеева З. М. Агроклиматические ресурсы Краснодарского края / З. М. Русеева, Ш. Ш. Народецкая. Ленинград: Гидрометеиздат, 1975. 250 с.

12. Соколова И. А. Государственно-частное партнёрство и инновационные технологии в страховании сельскохозяйственной деятельности // Вестник КрасГАУ, 2011. № 7. С. 29-34. URL: <http://elibrary.ru/download/25686776.pdf> (дата обращения: 17.06.2013).

13. Статистические данные по итогам деятельности страховщиков за 2012 год. URL: http://www.fesm.ru/ru/contributors/insurance_industry/statistics/index.php?id_4=269 (дата обращения: 17.06.2013).

14. Федеральный закон от 25 июля 2011 года № 260-ФЗ «О государственной поддержке в сфере сельскохозяйственного страхования и о внесении изме-

нений в Федеральный закон «О развитии сельского хозяйства». URL:
<http://www.mcx.ru/documents/document/show/16708.285.htm> (дата обращения:
17.06.2013).

15. Rick Management Agency. Policies. Overview. URL:
<http://www.rma.usda.gov/policies/#overview> (дата обращения: 17.06.2013).

DATA ABOUT THE AUTHORS

Piterskaya Ludmila Yurievna, Head of the Department of currency circulation and credit in Kuban State Agrarian University, PhD in economics, professor

Kuban State Agrarian University

13, Kalinina Street, Krasnodar, 350044, Russia

lpiterskaya@yandex.ru

Tlisheva Nafset Adamovna, assistant of the Department of currency circulation and credit in Kuban State Agrarian University

Kuban State Agrarian University

13, Kalinina Street, Krasnodar, 350044, Russia

cellula@mail.ru

ДАнные ОБ АВТОРАХ

Питерская Людмила Юрьевна, заведующая кафедрой денежного обращения и кредита Кубанского государственного аграрного университета

Кубанский государственный аграрный университет

ул. Калинина, 13, г. Краснодар, 350044, Россия

lpiterskaya@yandex.ru

Тлишева Нафсэт Адамовна, ассистент кафедры денежного обращения и кредита Кубанского государственного аграрного университета

Кубанский государственный аграрный университет

ул. Калинина, 13, г. Краснодар, 350044, Россия

cellula@mail.ru