



Drawing up the official adjustment rules for damage assessment in agricultural insurance: Results of a Delphi survey for fruit crops in Spain

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ARTICLE INFO

Article history:

Received 22 May 2010
Received in revised form 22 March 2011
Accepted 6 April 2011
Available online 4 May 2011

Keywords:

Delphi
Foresight study
Subjective information
Loss adjustment
Agricultural insurance

ABSTRACT

This paper presents the results of an innovative use of the Delphi technique to obtain quantitative information for the evaluation of the Official Adjustment Rules for Damage Assessment in agricultural insurance. An efficient insurance system must guarantee that loss adjustment is performed fairly and transparently, so that the continual review and modification of adjustment rules becomes especially important. The present study develops and applies a methodology based on the subjective information compiled by experts to evaluate the modification of the Specific Loss Adjustment Rule for Fruit Crops under real market conditions. The results show that the method employed comes forward as a valid option to provide reliable information, as well as other economic and social advantages, in the absence of alternative statistical sources. The validity of the study has been proved by its utility, as the results were extremely useful for drawing up a new Official Adjustment Rule. This application opens up an interesting field of development for this technique, which will enable the proposed methodology to be applied to similar studies in the context of agricultural insurance loss adjustment.

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1. Introduction

Agriculture is a strategic sector of the economy due to its ties to elements essential to the quality of life of a country's population: i.e. food supplies and the environment. However, it is also one of the activities with the highest risk exposure, mainly because it is carried out under the open skies. Also, due to the tendency of weather conditions to vary widely (climate change and environmental risks) and the increased international trade and freer market conditions, it can be said that the degree of uncertainty in agriculture will be even more marked in the future. In this context, agricultural risk management has been the focus of both recent and current reforms in many countries belonging to the Organisation for Economic Cooperation and Development (OECD).

Agricultural insurance is probably one of the most efficient and best known tools for managing the risks associated with agriculture. A farmer's faith in his insurance policy is the clearest indicator of the policy's efficiency. Its validity becomes clear when an assessment is made of the extent of damages suffered by the insured product, since this is the time when the policy either meets or fails to meet the holder's expectations. For this reason, damage assessment is of crucial importance as it can guarantee insured farmers a satisfactory return on their work.

Loss assessment is carried out in Spain in accordance with the Official Loss Adjustment Rules as defined by the government administration and which contains specifically defined conditions for each of the different insurable crops. In order to reassure farmers, improving the damage assessment process has become a priority in the sector and has resulted in the regulations being

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subjected to a continuous review so as to adapt them to current market conditions. Surveys carried out by the Spanish Ministry for the Environment (MARM) have shown that most non-citrus fruit producers are of the opinion that in general taking out insurance does not necessarily guarantee the recovery of a large part of their losses.

Recent changes in the market for non-citrus fresh fruit appear to be the underlying cause of the farmers' dissatisfaction with the damage assessment of their losses. The quality standards required of agricultural products have risen considerably in recent years. European agriculture has also increased the production of most types of fresh fruit and there has been an increase in imports from outside the EU as a result of free market policies. This growth in the supply has caused a drop in the prices European farmers can obtain for their products, in spite of having to meet higher quality requirements for their fruit.

There has also been a lessening in the demand for the least commercially viable types of fruit. Due to the abundance of popular fruit species, the fruit processing industry has gradually been raising its quality standards. All these factors mean that weather-damaged fruit which formerly would have found an outlet as second-class products is now unsaleable under the present market conditions and may even be rejected by the fruit processors.

In this context, insured farmers state that the application of the Official Loss Adjustment Rules in estimating loss percentages in damaged fruit does not take the existing market conditions into consideration. They claim that at the present rules are out of date, since the losses are directly related to the increase in demand and that their insurance policies do not cover the full amount of their losses.

Considerations of the importance of insurance in the area of Spanish agricultural policy led the MARM to look into the causes of the apparent reduction in the efficiency of insurance policies. In view of the evolution of the fruit market conditions, an investigation must be carried out on why damaged fruit loses so much of its value and to identify the factors that affect the possibilities of weather-damaged fruit (mainly by hail and frost) being used for purposes other than consumption.

The objective is to carry out an investigation into the fresh fruit market in order to reformulate and adapt the Specific Loss Adjustment Rule for Fruit Crops¹ to the real situation in order to satisfy the claims of the different stakeholders in agricultural insurance (insured, insurers and the administration). The evaluation of the contents of the Specific Loss Adjustment Rule could be boiled down to obtaining the answers to two main questions: a) Does application of the Specific Adjustment Rule reflect the real value of market losses in crops damaged by unusual weather conditions? If so, b) Which part of the Rule needs to be modified to adapt it to the current state of the market?

The State Agricultural Insurance Entity (ENESA) was given the task of coordinating the investigation. ENESA depends directly on the MARM² and its duties include, among others, drawing up the government's Annual Agricultural Insurance Plan and carrying out the necessary technical and actuarial studies to ensure that the insurance system functions correctly and provides adequate cover. ENESA was aware of the experience in agricultural economics that had been acquired by a team of researchers from the Universidad Politécnica de Valencia. The head of ENESA's Loss Adjustment Service thus decided to personally request this team to design and develop a research project to achieve the desired objectives. This paper includes some of the results of the research carried out by the authors within the framework of this project.

However, in the course of the study we came up against a methodological problem, since we could find no objective information on the current or historical behaviour of the market in relation to fruit quality. This meant we had to have recourse to subjective information, for which we used the Delphi technique, based on qualitative principles, which we considered could provide us with the required results. This is a method of structuring communication between a group of persons who can provide useful information for the solution of a complex problem [1]. Its simplicity and flexibility make it adaptable to a wide range of different situations and requirements. Its primary aim is to obtain reliable opinions from a group of specialists or experts on the subject under study, so that the response of the group can be used to obtain a reasonable view of the future situation.

This work includes a new practical application of the Delphi method never used before in the insurance field and also provides empirical evidence of the impact of its use on the organizations responsible for regulating agricultural insurance. Besides the new application, it should also be emphasised that the research project achieved all its planned objectives: the information provided by the study using the Delphi method was able to determine the real situation of the fresh fruit market and to identify the most important elements by which it is influenced. This information facilitated the creation of new Specific Loss Adjustment Rules adapted to the new conditions and consequently improved the farmers' confidence in and acceptance of agricultural insurance policies. The generalised application of this methodology contributes to the development of this type of insurance, which is one of the fundamental pillars of Spanish agricultural policy, since it can be applied to similar studies carried out on other agricultural products and thus provides a useful source of information which can be used to support the political decisions taken regarding agricultural insurance.

The paper is structured as follows: [Section 2](#) describes the importance of agricultural insurance as a risk management tool, the configuration of the Spanish agricultural insurance system and the importance of the official loss adjustment rules in its operations. [Section 3](#) analyses the principles and characteristics of the Delphi method and the reasons why it was selected for this work. [Section 4](#) gives the design and development of the methodological application. [Section 5](#) contains the statistical control of the responses and the results of the Delphi analysis and, finally, [Section 6](#) offers the conclusions that demonstrate the usefulness and social validity of the results obtained.

¹ *Norma Específica de Peritación de Daños en la Producción de Frutales (no cítricos)*, published in 1987 as a development of the *Norma General de Peritación de los Daños Ocasionados sobre las Producciones Agrícolas, amparados por el Seguro Agrario Combinado*.

² The Entity's president is the Sub-Secretary of the MARM and its director is also designated by this ministry.

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