

A REPORT FROM THE DAMAGE LEVEL OF INSURED RICE FIELDS IN NORTHERN IRAN

***Seyyed Ali Noorhosseini-Niyaki and Dariush Ashoori-Latmahalleh**

Young Researchers and Elite Club, Rasht Branch, Islamic Azad University, Rasht, Iran

**Author for Correspondence*

ABSTRACT

This study has reported the damage level of insured rice fields in 2011. The studied area included *Imanabad* and *Kadousara* villages in Guilan province near to Caspian Sea, north of Iran. Sample size contained 226 adopters of insured rice farms. Result reported that mean damage level in the regions was 0.810 ha per farmer. This study showed that rice production of 41.2% adopters of rice farm insurance was damaged at milky grain stage. Damage in dough grain and ripening grain stages were 27% and 10.2 rice farm, respectively. Also, flooding stress was observed in rice field 21.7% farmers.

Keywords: *Insurance, Damage, Stages of Grain Growth, Adopters, Rice Field, North of Iran*

INTRODUCTION

One of the outstanding characteristics of agricultural production activities, its high dependence on nature and the environment is uncontrolled and sometimes unpredictable. Therefore, agricultural production in natural condition is one of the most risky types of economic activities (Auh and Johnson, 2004). Outbreaks of pests, plant diseases and animal kinds, sudden temperature changes, shortages and poor distribution of rainfall and the incidence of consecutive droughts and the consequences of natural disasters such as floods and earthquakes cause huge losses to farmers and the agricultural sector. Though the producers should be alert yet a systematic study of the regions is equally important (Goodwin, 1993). Due to the risk and uncertainty in agriculture and heavy investment in this sector agricultural insurance is a better support (Barent *et al.*, 1990).

Insurance is a useful support in times of crisis and to help people fix their economic status and providing them peace of mind and financial well-being (Goodwin and Ker, 1998). Insurance is basically an agreement between a contractor and an insurance company or an organization of individuals and society (Sayers *et al.*, 1996). Here the insurer promises to pay a premium in exchange for risk covering the damages (Chambers, 1989). Agriculture insurance can decrease the risk for exploitation and increase the sense of security for farmers. It help proper and efficient use of factors for production and investment in modern technology in agriculture, thus increasing productivity and reducing volatility in agricultural production (Williams *et al.*, 1993). If farmers know that the loss will be compensated, they desire to allocate resources in ways that maximize production and thereby provide greater benefit (Torkamani and Gorbani, 1999). Barent *et al.*, (1990) argue the most important factor in determining insurance rates is expected return on agricultural insurance claim.

In a study, Smith and Boquet (1996) investigated the demand for agricultural products from the Wheat Montana insurance, they reached the conclusion that variables such as education level of farmers' exposure to risk and credit institutions in debt to the banks, the volatility production yields and premium rates on farmers' participation in crop insurance schemes are effective. In the study, Williams *et al.*, (1993) also determined the change of beneficiary premium amount can be different degrees of risk aversion will tend to accept insured crops. In a study (Goodwin, 1993) on the effective factors of demand for crop insurance for corn in Iowa America, it was reported that the owners of larger farms tend to have crop insurance and corn-producing farmers are willing to accept insurance. In a research (Vandever, 2001) about the effects of federal insurance program for crops of wheat, they came to the conclusion that crop insurance subsidies will affect planting decisions and agricultural prices. Studies by Torkamani and

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Gorbani (1999) on the factors affecting demand for agricultural insurance in the city of Sari reported that the size of the part-time farm operator has a negative impact on insurance demand. In a study of Gorbani *et al.*, (2000) conducted on the factors affecting adoption of agricultural insurance, reached the conclusion that increased levels of factors affecting demand for Insurance and policymakers can play a role in identifying weaknesses and strengths in this process. In a study of Nikoii and Torkamani (1997) on the factors affecting the demand for crop insurance in the province did, it was determined that the amount of wheat production in the previous year, land ownership, education level, age, risk oriented investors farmer and experience positive impact on the demand for crop insurance and farm risk factors such as the number of pieces of land, value of land, leaving the land fallow on the insurance claim have a negative impact. There are a number of studies, positive relationship between price (financial and material factors) degree of satisfaction insurer confirms (Sayers *et al.*, 1996). Quality and type of services provided by the service provider, is an important factor in customer satisfaction (Radhakrishna, 2002; Sayers *et al.*, 1996; Auh and Johnson, 2004). Chearaphan (1994) argues that because the laws, administrative red tape in the Thai agricultural insurance programs in the country has not been successful. Rate contract, ability and speed in solving agricultural problems and timely payment of compensation to affected farmers and farmer's trust causes the rising reputation and farmers will have a great impact on satisfaction. Too late to act and neglect of the government to fulfill its obligations to the satisfaction of the other issues that reduce farmers' insurance programs One of the factors that result in the insured insurance plans are abandoned (Culp, 1997; Warnock, 1992; Chearaphan, 1994). The present study was reported with Identification of damage level of insured rice fields in northern Iran.

MATERIALS AND METHODS

This study was carried out in 2011. Studied area including *Imanabad* and *Kadousara villages* set in Guilan province near to Caspian Sea, north of Iran (Figure 1). In this study, first, adopters of rice farm insurance were identified. A total of 226 farmers were selected using stratified random sampling technique using a table for determining the sample from given population developed by Bartlett *et al.*, (2001). Then calculation of damage percentage was according to stage and type of damage in rice plant (Table 1) that in figure 2 shown rice grain growth stages. Frequency, mean, std. deviation and chart were used for statistical analysis. Data analysis and was conducted with statistical package for social sciences (SPSS₁₈).

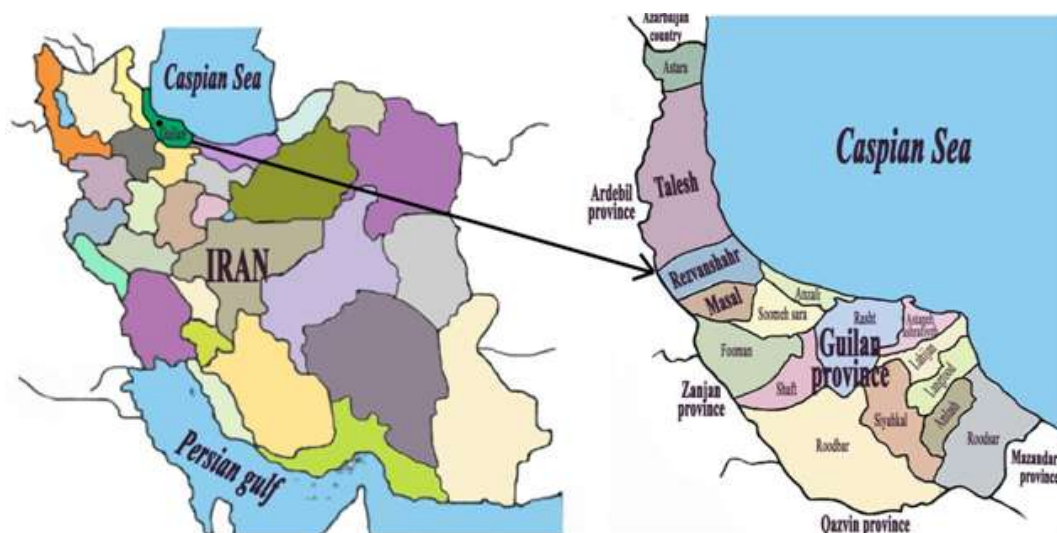


Figure 1: Site of study

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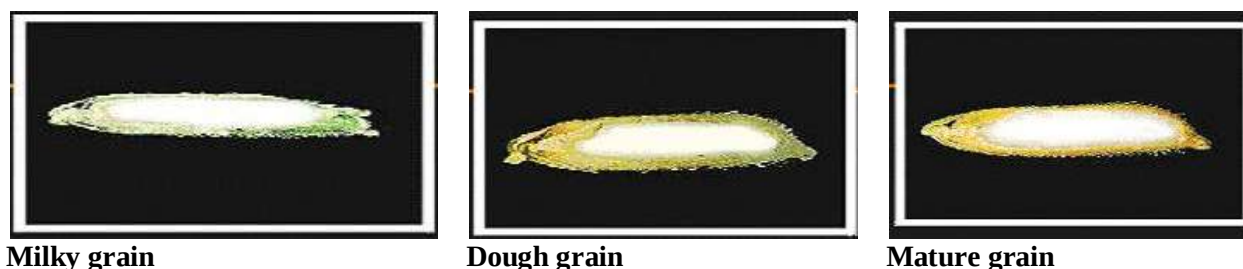


Figure 2: Rice grain growth stages

Table 1: Calculation of damage percentage according to stage and type of damage in rice plant

Stage and type of damage	Damage percentage
Ripening grain stage	50
Dough grain stage	60
Milky grain stage	75
Flooding stress	100

RESULTS AND DISCUSSION

In this study it was reported that mean level insured was 0.964 ha for each farmer from the studied region. Mean damage level was in 0.810 ha from rice field each farmer. In this region, damage percentage in 2011 was 73.827% (Table 2). Result this study showed that rice production of 41.2% adopters of rice farm insurance was being damaged in milky grain stage. Damage in dough grain and ripening grain stages was reported at 27% and 10.2 rice farm, respectively. Also, flooding stress was observed in rice field 21.7% farmers (Table 3; Figure 3).

Table 2: Mean and std. deviation for damage level of insured rice fields in northern Iran

Variables	Number	Mean	Std. Deviation
Level insured (ha)	226	0.964	0.664
Damage level (ha)	226	0.810	0.489
Damage Percentage	226	73.827	16.113

Table 3: Frequency according to stage or type of damage in rice plant

Stage or type of damage	Frequency	Percent
Ripening grain stage	23	10.2
Dough grain stage	61	27.0
Milky grain stage	93	41.2
Flooding stress	49	21.7
Total	226	100.0

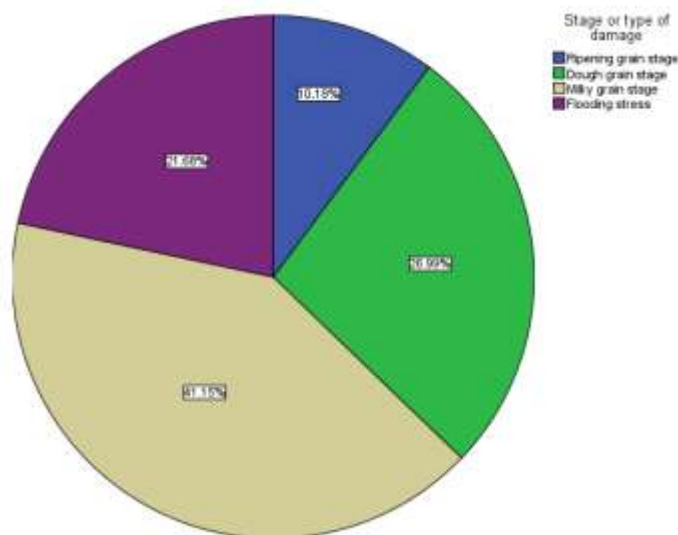


Figure 3: Frequency percent according to stage or type of damage in rice plant

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