

The Policy and Pilot Plan: Top-Grafting Pears for Crop Natural Disaster Insurance in Taiwan, R.O.C

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ABSTRACT

The Taiwanese government's assistance to farmers affected by natural disasters is mainly to provide cash relief and low-interest loans. However, due to the increasingly extreme global climate changes, funds for disaster assistance are often a great financial burden for the government. In addition, in response to trade liberalization-related factors, the Taiwanese government has, since 2015, carried out the pilot program of "crop natural disaster insurance" (hereinafter referred to as crop insurance) through the adoption of a "subsidizing farmers' insurance premium for the purchase of commercial insurance" mode, with top-grafting pears as the subject-matter insured. The covered perils include: typhoons, heavy rain, and cold damage. The sum insured is defined on agreed basis, based on "production costs". And the product is divided into two types: "Indemnity Based" and "Government disaster relief Top-Up Based".

The Taiwanese government expects to reduce farmers' losses incurred due to natural disasters through participation in the crop insurance and help them gradually lessen their dependence on the government's natural disaster relief (hereinafter referred to as disaster relief). In the future, the government will continue to try out "crop insurance" and plan crop insurance legislation in order to establish the legal basis of the crop insurance. At the same time, in response to the commencement of crop insurance, the disaster relief system shall be gradually adjusted to lessen the government's financial burden. The crop insurance will without a doubt become an important policy implementation direction for the Council of Agriculture and one of the important risk management tools for farmers.

Keywords: agricultural disaster relief, pilot program of crop natural disaster insurance, district based segmentation

INTRODUCTION

Due to Taiwan's special geography, complex and changing weather patterns, in the summer and autumn typhoons and heavy rain often take place, while in winter low temperature and damage caused by extreme cold weather frequently occur. Taiwan is prone to a high incidence of natural disasters as a result of its geographical location and topographic conditions. In view of the fact that natural disasters easily lead to serious agricultural damage and affect farmers' income, the Council of Agriculture (hereafter COA) implemented the agricultural natural disaster relief system on August 31, 1991 and set up the "Guidelines for agricultural natural disaster relief" to serve as a basis for assisting the farmers to recover from natural disasters.

In recent years, the global climate has become more extreme than ever, leading to more serious catastrophes and causing more large-scale agricultural losses. In addition, unusual temperatures and precipitation are at higher risk for agricultural production. It is no longer possible to protect the incomes and assets of farmers purely by relying on government-funded

natural disaster relief. The expenditures on natural disaster relief have led to a heavy financial burden as well.

According to statistics in the recent decade (2005-2014), the annual provision of relief funds takes up 39.49% of the average natural disaster relief expenditure. Therefore the underfunded part is made up through the government's transfer of other agricultural expenditures. This has resulted in the crowding-out effect on the agricultural budget. In addition, over the past 10 years, the amount of government aid only takes up 24.69% of the agricultural natural disaster losses. This being stated, although natural-disaster relief can reduce farmer's economic losses, farmers still need to bear 75.31% of the losses incurred from natural disasters. Farmers often bring up the issue of natural disaster relief insufficiency. Obviously, the government-funded natural disaster relief can no longer respond to the needs of farmers. The COA has carried out the Pilot Plan for Crop Natural Disaster Insurance, which is said to help farmers reduce losses from natural disasters and solve natural disaster relief insufficiency related problems.

Natural disaster relief system in Taiwan

Content of Natural Disaster Relief

Taiwan's agricultural natural disaster relief system covers aid to agriculture, forestry, fishery, and animal husbandry sectors. At present, the COA's natural disaster relief is granted through cash relief to farmers whose losses from natural disasters have been identified to exceed 20%. The disaster relief expenditure is completely covered by the central competent authority (COA). The relief processes include: the central component authority announces cash relief, the town (township, city, and district) offices evaluate the scale of nature disasters and investigate the degree of farmers' losses (at least 20%) individually. Both municipal (counties, cities) governments and COA (Agriculture and Food Agency) check the assessed results by sampling and the COA (Agriculture and Food Agency) grants payments after completing review. The schedule for cash relief to the farmers takes about 44 days to complete. The main contents of the agricultural natural disaster relief system are described below:

- ※Definition of a natural disaster: It refers to damage caused by typhoons, foehns, tornadoes, heavy rains, incessant rains, hail, cold, droughts, or earthquakes. Other natural disasters not mentioned herein but requiring relief may be included as deemed necessary by the competent central authority.
- ※Subjects of relief: Refer to natural persons engaged in agriculture, forestry, fishery, and animal husbandry production, rather than legal entity (agricultural co-operative, agricultural company).
- ※Not be granted relief: The farmers who engage in land, water, and facility being in violation of relevant regulations shall not be granted relief.
- ※The same crop from the same production (fruit trees) season shall be granted relief no more than once. Crops that are newly planted are considered as different production seasons. Thus, they are not subject to the foregoing restrictions.

Natural disaster relief insufficiency

The natural disaster relief system underwent 14 modifications from 1991 to 2015. Currently, problems with the ongoing disaster relief system urgently demanding improvement are as follows:

1. Limited disaster relief fund: At present, all agriculture related natural disaster relief funds are covered by the central government. Every year, the relief fund budget in the amount of about NTD1.86 billion (USD34 million) is allocated. However, the average disaster relief fund expenditure in the recent 10 years (2005-2014) is about NTD2.75 billion (USD86 million); in 2015, the relief even reached as high as NTD4.622 billion (USD

144.4million). The COA coped with disaster relief fund shortages by making adjustments according to “priority” in accordance with the provisions, but the routine promotion of other agricultural infrastructure was inevitably affected.

2. High administrative costs: Currently, a catastrophe investigation is mobilized when a farmer suffers more than 20% losses from natural disaster. The farmer has to report miscellaneous catastrophic damage through the township and local government to the central government for announcement and relief. Government agencies authorized to mobilize catastrophe investigations include: town offices, local governments, agricultural research and extension station (COA), the central government, and other relevant government agencies, which lead to high administrative costs and affected routine work.
3. Disaster losses identification disputes: In actual practice, those not meeting the requirements stated in the relief guideline, (e.g. only slight disaster losses, illegitimate use of land, water, or facilities, or failing to apply for approval and declaration, etc.), and those holding opposing views with regard to the site investigator’s identified disaster losses rate and the cause of the disaster are likely to have disputes and cause conflicts between the government and the farmers.
4. Insufficient relief: In the recent ten years, the average losses incurred from agriculture related natural disasters have been estimated at about NTD11.181 billion (USD349.41 million). Although the average annual cash relief amounts to about NTD2.75 billion (USD86 million), the government’s relief amount only accounts for 24.69% of the total agriculture disaster losses. The cash relief can lessen farmers’ economic loss, but they still need to cover 75.31% of the losses of their own.

Pilot Plan for Crop Natural Disaster Insurance in Taiwan **Current Situation of Agriculture Insurance in Taiwan**

Livestock insurance is a policy-oriented agricultural insurance currently implemented in Taiwan. The pilot plan was conducted in 1954, and the plan was officially opened in 1963. The government provides guidance to the farmers associations at all levels. Additionally, through the assistance of related industrial groups, the livestock raisers in the nation are encouraged to purchase livestock insurance to share livestock business risks, prevent the illegal circulation and use of livestock deaths from disease, and strengthen livestock feeding management and disease prevention. Currently, the livestock insurances implemented include: insurance for cow deaths, insurance for pig deaths during transport, and insurance for pig deaths. The basic-level farmers’ associations serve as the insurers, while the county farmers associations and national associations provide second insurance coverage to share risks. The government provides subsidies for farmers’ premiums and provides local governments and administrative expenses of farmers associations. In 2015, NTD170 million (about USD5.3125 million) was allocated as subsidies for farmers.

In addition, in order to safeguard fishermen’s property and safety, operators of fishing vessels with not exceeding 100 tons of power (including fishing crafts) is encouraged to purchase fishing vessel insurance. Beginning 1954, incentives for fishing vessel owner insurance have been granted. According to the tonnage of fishing vessels, subsidies for fishermen’s insurance are granted to protect fishermen’s means of livelihood. In 2015, subsidies granted to fishermen amounted to NTD52 million (about USD1.625 million).

Difficulties in Crop Natural Disaster Insurance in Taiwan

In order to resolve the problems in the current natural disaster system, the COA has conducted the Pilot Plan for Crop Natural Disaster Insurance (hereafter CNDI) since 2015. However, Taiwan’s crop natural disaster insurance has its objective limitations. First, Taiwan has a wide variety of crops, and the average cultivated area per farmer is small. The structure of agriculture does not conform to the basic insurance principle of the law of large numbers.

As it is difficult to precisely predict rates losses, private-owned insurance companies are not willing to participate and make CNDI effective. Secondly, as crop cultivation areas and seasons are both concentrated, widespread damage is likely. Risk diversification is difficult through insurance in Taiwan. Thirdly, since agriculture insurance targets are live agricultural products, it is difficult to specifically assess agriculture nature disaster losses. The assessment questions are easily disputed. Fourthly, existing insurance operators lack professional agricultural catastrophe investigation personnel, thus the relatively higher costs of crop natural disaster insurance. Therefore, over the years, private-owned insurance companies have shown low interest in involvement. On top of it, farmers have been long accustomed to disaster relief that is free of charge. A few difficulties are involved in encouraging the farmers to purchase CNDI for avoiding their disaster losses. In fact, Taiwan's Agriculture Development Act has stipulated that Taiwan should carry out a pilot plan of agriculture insurance since 1973, but it has not been actively promoted due to some objective limitations and difficulties.

2015 Pilot Plan for Crop Natural Disaster Insurance in Taiwan

To conduct the Pilot Plan for CNDI, during the early policy planning phase in 2014, the COA offered assistance in the evaluation of suitable crops for early pilot plan conduction, prioritizing major crops in Taiwan with high economic values and an industrial area reaching a certain scale. Research and analysis were carried out to determine which crops should be listed as natural disaster insurance crop items. Then, after inviting agricultural administration agencies, insurance companies, and agricultural research units to gain an in-depth understanding of various crops, namely, top-grafting pears, mangoes, persimmons, *Vitis vinifera* "Kyoho" (grapes), papayas, tankans, wentan pomelos, sweet apples, wax apples, and rice, 10 crops in all, the crop items recommended for early inclusion in the Pilot Plan for CNDI were listed. In addition, local governments also recommended the inclusion of over 50 crops, including tea, green bamboo shoots, bananas, and loquats for the Pilot Plan for Agricultural Natural Disaster Insurance scope. Private-owned insurance companies launched the top-grafting pear natural catastrophe insurance policy in 2015. Taiwan's first crop natural insurance policy became commercially available in November 2015. One third of the insurance premiums are subsidized by the central government. The local government can offer one third of the insurance premiums by its financial situation. If local governments provide the other One third subsidies, thus farmers only bear one third of the insurance premiums. The pilot plan is due to be conducted for three years.

2015 Top-grafting Pear Policy Content

Taiwan has about 7,000 pear growers. The planting area as of 2013 was over 5,000 hectares. The annual cost input per hectare is about NTD700,000 (USD21,800). Taiwan's 2015 top-grafting pear natural disaster insurance policy divided into two types is a cost-based insurance intended to compensate farmers' loss of input costs. The indemnity type subject-matter insured is top-grafting pears (pome). The underwriting perils include: typhoons and heavy rains. The insured amounts are of two types: maximum claim in the amount of NTD250,000 (USD7,800)/hectare and NTD350,000 (USD10,900)/hectare. During the insurance period, the insured subject of top-grafting pear damage due to typhoon or heavy rain shall be compensated by the insurance company according to the degree of damage stated in the contract. The other type is "Government disaster relief Top-Up Based" policy whose subject-matter insured comprise two types: top-grafting pears (pome) and pear spikes. The underwriting perils include typhoons, heavy rain, and low temperature. The claim amounts are in fixed amounts. For typhoons and heavy rain (pome): there are two types, namely, NTD60,000 (USD1,800)/hectare and NTD90,000 (USD2,800)/hectare; for cold (pear spikes), there are two types, namely, NTD30,000 (USD900)/hectare and

NTD60,000/hectare for cold (Pear spikes). During the insurance period, the insured whose subject-matter insured top-grafting pears are subject to damage due to typhoons or heavy rain or whose pear spikes are subject to damage due to cold are granted “cash relief” from the government in accordance with provisions in the Guidelines for Agricultural Natural Disaster Relief. The insurance company shall then compensate according to the contract, without having to evaluate disaster losses. This type of policy adopts “index policy” practices. Worth noting is that farmers that purchase “Government disaster relief Top-Up Based” policy will only be compensated when losses reaching 20% are incurred. However, those who purchase “Indemnity Based” type policy can receive compensation for damage exceeding 5% and are granted full compensation for damage exceeding 80%.

Note that the reason as to why the Indemnity Based policy compensation comprises two amounts, up to NTD250,000/hectare and NTD350,000/Hectare is that the policy design is based on the computed top-grafting pear input costs of NTD500,000/hectare and NTD700,000/hectare. In addition, as to why the fixed amounts of compensation in the Government disaster relief Top-Up Based policy comprise two types: NTD60,000/hectare and NTD90,000/hectare for heavy rain (pome); NTD30,000/hectare and NTD60,000/hectare for cold (pear spikes), the reason is that the natural disaster relief is NTD90,000/hectare for pome and NTD60,000/hectare for pear spikes. Due to insurance cost considerations, the claim amount as a rule shall not exceed the disaster relief amount. Moreover, since the Guidelines for Natural Disaster Relief provisions relief offered once a year, therefore, government disaster relief-linked insurance policies only offer one-time claim.

Government agricultural technical consultation and assistance in the pilot phase of evaluating disaster losses

Since Taiwan’s private-owned insurance companies lack agriculture expertise with regard to subject-matter insured (crops) and are short of professional manpower for evaluating disaster losses, they are inexperienced in designing crop natural insurance policies. As a result, the government provides agricultural technical advice consultation, including the physiological characteristics and lifecycle of crops, the degree and frequency of disaster losses incurred due to natural disasters, and various statistical data, as well as assisting private-owned insurance companies in issuing insurance policies. In addition, the government also makes arrangement for private-owned insurance companies to visit important top-grafting pear production areas to exchange ideas with local pear growers in order to confirm which policy content type best meets the needs of farmers. More importantly, the government provides “district based segmentation”, a model for evaluating disaster losses and assisting private-owned insurance companies in evaluating disaster losses during the pilot phase, thereby resolving the major problems with the crop indemnity type insurance policy conduction. When the policy is officially launched in the future, disaster loss assessment work will be the response of private-owned insurance companies.

What Is District Based Segmentation ?

“District based segmentation” refers to statistically estimating the situation of population damage using damage samples. These are of course at risk for sampling errors, but the greatest advantage lies in reduced disaster loss assessment costs. The disaster loss assessment model of “district based segmentation” is briefed below.

The pilot plan of disaster loss assessment areas is carried out in five counties and cities, including Hsinchu County, Miaoli County, Taichung City, Chiayi County, and Ilan County. As a rule, the production areas are classified by town (townships, city, and district) and administrative regions. In addition, according to geography, climate, and crop planting situation, and other conditions, the main production towns and townships are independently divided into sub-areas (such as four sub-areas in Dongshih District, Taichung City, two

sub-areas in Hoping District, Taichung City, and three sub-areas in Zhuolan Township, Miaoli County). Finally, after the insured farmers have been confirmed, the sub-areas can be subsequently classified and adjusted. The sampling of district based segmentation is conducted through random sampling by insurance companies. The sum of the district based sampling areas should reach 10% of the total insured area. Private-owned insurance companies may take random samples of the areas depending on the situation of losses. In case individual incurred orchards incur damage, or only a small area within the district is damaged, case-by-case loss identification can be carried out.

Members on assessing disaster's losses

Disaster loss assessment team members include: one insurance company representative, one COA local experimental improvement site technician, and one Agriculture and Food Agency (AFA) Branch (Office) representative. If necessary, marketing squad leaders may be invited to join the team. In addition, the AFA organized manpower training of disaster loss assessment for top-grafting pear natural disaster insurance in 2015. The AFA encourages agriculture agency retirees or senior farmers to join the training. During comprehensive promotion in the future, private-owned insurance companies may hire those with certificates to assist insurance companies in evaluating disaster losses. During the pilot phase, since insurance companies are still in their learning stage, the conclusions of the disaster loss assessment team are generally prioritized. In addition, the COA has developed the "Operational Handbook for Evaluating Disaster Losses According to Top-grafting Pear Natural Disaster Insurance" to serve as a reference for identifying the extent of top-grafting pear damage.

Premium Subsidies from the Government

To encourage farmers to participate in crop natural disaster insurance, the COA has set up the "Guidelines for the Pilot Plan for Agriculture Related Natural Disaster Insurance Subsidies". For farmers that purchase the top-grafting pear natural disaster insurance, the COA will subsidize one third of the premiums, with the maximum amount granted not exceeding NTD30,000. Additionally, farmers' associations are subsidized to process farmers' applications for administrative fees arising from insurance premium subsidies. Local governments shall also provide additional subsidies for insurance premiums as needed for agricultural policy implementation. Currently, Taichung City, Hsinchu County, and Ilan County governments provide one third of the premium subsidies. During the pilot phase, the natural disaster relief system and crop natural relief system coexist. In other words, farmers that purchase the top-grafting pear crop insurance will not only receive compensation, but will also receive disaster relief funds from the government. Nevertheless, the organizations of budget, accounting, and statistics of Taiwanese government thought that government' finance was limited, the farmers who purchased top-grafting pear crop insurance would receive compensation and disaster relief funds was given dual protection, and it was however unfair for other farmers. Therefore, they recommended that crop insured farmers that received government premium subsidies either stopped claiming disaster relief funds or accepted less disaster relief payments.

Cautions and Improvements of the Top-Grafting Pear Pilot Plan

Statistics as of the end of March 2016 show the total insured area of 50 hectares, accounting for 1% of the total production area. A review was conducted to find the causes, as explained below:

1. The coexistence of the crop natural relief system and the natural disaster insurance system has caused most farmers to hold conservative views. In addition, since they are

accustomed to the disaster relief system that is free of charge, there are not enough incentives to purchase the insurance. In the future, the crop insurance system will be promoted at all levels, while the natural disaster relief system will be adjusted, or it will steady exit the scene.

2. Farmers consider premium rates to be too high and premium subsidy procedures to be complex. If local governments fail to provide one-third premium subsidies and farmers have to pay two-thirds of the premiums, the burden will be too high. Through experience accumulation during the pilot phase in the future and with the policy support of the government, the premium ratio setting will be more transparent and open, which will in turn simplify the subsidy procedures, thus catering to the needs of farmers.
3. Farmers have raised doubts over the crop insurance. In January 2016, low temperature and cold hit Taiwan. Farmers that purchased the low temperature and cold insurance policy were promptly compensated within one month, which successfully cleared their doubts.
4. Private-owned insurance companies have inadequate sales channeling and lack knowledge about farmer's planting habits. If a farmers association's trusted by farmers can be used as a channel for sales and communication, a boost in sales performance is anticipated.
5. The policy launch time is in November during the top-grafting pear grafting and propagation period. During this time, it will be difficult to give farmers an insight into the policy content. Top-grafting pears in Taiwan are harvested around June and July. Private-owned insurance companies should launch policies during this time when farmers have slack. This way, farmer's purchasing intention will increase.

The Policy objectives and future directions for Crop Natural Disaster Insurance in Taiwan

The Policy objectives for Crop Natural Disaster Insurance

The COA has planned and constructed a farmers' business security network. Every year, unconfirmed disaster relief funds for disaster losses are converted into fixed insurance premium expenditures. In addition to enabling farmers to obtain insurance claims higher than disaster relief amounts that make up for farmers' losses, the government's financial burden can be steadily maintained. The disaster relief system shall also be reviewed and adjusted accordingly. Furthermore, in reference to the concept of "district based segmentation" in disaster insurance, disaster loss assessments through "district based segmentation" is currently undergoing planning, while localized miscellaneous disaster losses are undertaken by local governments, which will reduced administrative costs for disaster loss assessments and lessen the load of government manpower at all levels.

The Future Directions for Crop Natural Disaster Insurance in Taiwan

Crop natural disaster insurance policies generally have three features: high risks, high claim rates, and high costs. Therefore, experts and scholars recommend that Taiwan adopt policy-based insurance in place of the current commercial-based insurance policies. The most important policy-based insurance policies include "compulsory automobile liability insurance" and "residential house earthquake insurance". The governed will integrate Taiwan's current disaster relief system and plan the crop insurance system in reference to the spirit of the two above-mentioned policy-based insurance policies. The contents are described as follows:

1. Agricultural insurance should head towards the direction of project legislation planning. The legislation direction is to adjust the current commercial-based insurance into policy-based insurance and provide agriculture insurance with low premium rates and high subsidies. Premium subsidies provided by the government or administrative costs,

re-insurance, disaster loss assessment, or business lease tax preferential offers provided to private-owned insurance companies should be in accordance with legal provisions in order to obtain the government's budget support. In addition, agriculture insurance is compulsory or voluntary, government-managed or privatized, which should be in accordance with the legal provisions.

2. Disaster relief and disaster insurance measures should be adjusted where appropriate. Provided that the government's financial budget remains unaffected, disaster insurance components should be increased and the disaster relief should be decreased. Farmers' risk of losses incurred due to a natural disaster will be reduced layer by layer. For instance, for loss rates not exceeding 20%, the risks are shouldered by farmers; for loss rates exceeding 20% the risks are shouldered by the governed by disaster relief means. In other words, the disaster relief in part or in full is substituted by disaster insurance.
3. Disaster insurance measures should be complemented by other agriculture subsidy measures to increase the effectiveness of insured rates. Taiwan's earthquake insurance has an insured rate of about 32.25% (end of February, 2016). Without pressure coming from house mortgage banks, based on experience, the insured rate is only 0.2%. Therefore, in order to increase the crop insured rate, other agriculture subsidy measures may be supplemented in the future, such as providing more favorable interest rates for agricultural loans or prioritizing farmers when they apply for related agricultural subsidies.
4. The government will assist private-owned insurance companies in establishing a risk distribution mechanism. As major disasters often arise from crop insurance, it is difficult for private-owned insurance companies to shoulder risks while their willingness to conduct other agriculture insurance policies will be diminished. Experts and scholars therefore suggest that the government consider the spirit of risk distribution in earthquake funds in Taiwan, thereby assisting private owned insurance companies in disturbing agriculture insurance conduction related risks.
5. The government will discuss and set up agriculture related natural disaster relief and insurance funds. Agriculture related natural disasters do not occur every year. Therefore, experts and scholars suggest that the government consider the features of Taiwan's compulsory automobile liability insurance and the spirit of the "premiums only without gains or losses" deign. If there is a surplus from insurance claims, the excess should be included in the accumulated funds as compensation for future occurrences of major disasters.
6. Expand crop pilot plan items to accelerate experience accumulation. In 2015, the pilot plan for top-grafting pears was conducted. In 2016, pilot plans for other crops such as mangoes, pears, agricultural facilities, rice, etc. will be conducted. By 2017, high economic-value fish species (such as groupers) and other crops will be included in the pilot plan. Local governments will also provide other crop insurance needs (such as loquats).

CONCLUSION

Taiwan's government assistance to farmers affected by natural disasters through cash relief and low-interest loans, which will help farmers to produce again, rather than compensating for farmers' losses. The amount is approximately 10%-20% of the year-round input production costs. According to statistics, the government's total relief amount in the recent 10 years accounts for 24.69% of the average losses incurred from agriculture related natural disasters. Each year, the relief fund takes up 34.49% of the average disaster relief expenditure. Taiwan's government faces farmers' constant demand for a rise in the relief amount, as well as its own financial constraints.

Taiwan conducted the pilot plan for crop insurance in 2015. After the policies initiated by private-owned companies were approved by the COA, the COA subsidized one third of the

premiums, while local governments provided subsidies for premiums according to their financial situation. In 2016, crop items such as mangoes, pears, agricultural facilities and rice, etc. will continue to be included in the pilot plan. In 2017, fish species with high economic values (such as groupers) and other crops will be subsequently included in the pilot plan.

The future direction of Taiwan's crop insurance includes: setting up agricultural insurance act legislation, confirming the overall system content, and acquiring a basis for budget support, as well as coordinating with disaster relief system adjustments, such as progressively reducing disaster relief and increasing insurance assistance. The government will assist in setting up a risk distribution mechanism, setting up an agriculture related natural disaster relief and insurance fund, and continuing expanding the crop pilot plan items and accelerating experience accumulation. The COA anticipates that crop insurance will be one of the important risk management tools for farmers when a natural disaster hits, so that farmers can get more protection in the event a disaster occurs.

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Table Top-grafting pear crop insurance merchandise details

subject-matter Insured	Natural disaster perils	Insured merchandise	Maximum claim amount/fixed amount (NTD; USD)	Coverage	Insurance period
Top-grafting pears	Typhoons, heavy rains	Indemnity Based	(1) NTD350,000 (About USD10,900) (2) NTD250,000 (About USD7,800)	<p>The insurance company shall claim the insured with regard to top-grafting pears damaged due to typhoons or heavy rains during the insurance period in accordance with the agreed degree of damage stated in the contract.</p> <p>1. The degree of top-grafting pear damage at least 20% incurred by the insured due to low temperature or typhoons or heavy rain during the insurance period.</p> <p>2. The insurance company shall claim the insured according to the agreement in the contract when the insured has been granted "cash relief" from the government in accordance with the provisions in the "Guidelines for agricultural natural disaster relief".</p>	From November 1 to October 31 the following year
		Government disaster relief Top-Up Based	(1) NTD60,000 (About USD1,800) (2) NTD\$90,000 (About USD2,800)		
Pear spikes	Low temperature	Government disaster relief Top-Up Based	(1) NTD\$30,000 (About USD900) (2) NTD60,000 (About USD1,800)		From November 1 to March 15 the following year