

MANAGING ORCHARD & VINEYARD PRODUCTION RISKS

Jo Lynne Seufer
USDA/Risk Management Agency
Spokane Regional Office

RISK MANAGEMENT

*Keeping the Farm with the Family
By Planning Now for Protection Later ---
Today and Always...*

**MANAGING ORCHARD & VINEYARD
PRODUCTION RISKS**

TABLE OF CONTENTS

<u>MANAGING ORCHARD & VINEYARD PRODUCTION RISKS</u>	<u>Page</u>
Instructor Guidelines.....	3
Introduction	4
Sources of Production Risk	5
Technology and Crop Production Practices	5
Sustainable Agriculture	6
Element of Sustainability.....	7
Precision Agriculture	10
Organically Grown Crops.....	12
Enterprise Diversification.....	15
Capital Investments	16
Landlord/Tenant Relationship	17
Contract Production.....	18
Crop Insurance	19
Yield Risk Crop Insurance Coverage	21
Multiple Peril Crop Insurance Protection Program	21
Actual Production History	27
Units.....	32
Catastrophic (CAT) Crop Insurance.....	36
Specific Pacific Northwest Insured Fruit Crop Information	36
Endorsements/Policy Options	38
Dollar Plan of Insurance Coverage.....	44
Adjusted Gross Revenue (AGR) Insurance.....	45
Named Peril Protection Program.....	47
Non-Insured Crop Assistance Program (NAP).....	47
Crop Insurance Premium Calculation & Loss Indemnity Scenario / Examples	49
Risk Management/Crop Insurance Checklist.....	55
Summary of Production Risks.....	56
Acknowledgments.....	56
Reference Publications	56
Crop Insurance Companies	57

ATTACHMENTS

Exhibit Number

Crop Insurance Definitions	1.0
Specific State Crop Insurance FACT Sheets	2.0
State and County Crop Insurance Data Tables.....	3.0
Individual Crop Insurance Program FACT Sheets.....	4.0
Specific Insurance Program FACT Sheets.....	5.0

Instructor Guidelines
Managing Orchard and Vineyard Production Risks
Pacific Northwest RME Project for Orchard Families

The objective of this module, **Managing Orchard and Vineyard Production Risks**, is to provide agricultural producers with added knowledge about the sources of production risk impacting their decisions and the tools and options they could consider in managing production risks. The information will also provide an ideal resource tool for others throughout the agricultural business community. This section will focus on:

- U various sources of production risk associated throughout the fruit industry;
- U sources of production risk that affect the farm/ranch business when alternative actions or plans may be implemented; and
- U various production risk management strategies (including crop insurance) that might be adopted to control or counteract production risk.

The section module includes a short synopsis of what production risk management is and the benefits of understanding the interrelationships between those different types of risks (financial, marketing, human resource and legal).

The sources of production risk section provides producers an outline of possible alternative methods to manage production risks which could offset risk. While most American farmers are excited about the introduction of cutting edge strategies and new technologies in agriculture, it is important to estimate the expected costs versus the benefits these practices can bring to their operation when deciding whether to include sustainable agriculture, biotechnology, diversification, etc. into their annual cropping plans.

The crop insurance section provides a detailed outline about various insurance products (i.e., crop endorsements, policy options) available to Pacific Northwest orchardists and vineyard growers. While the section provides specific insurance provisions and examples for Idaho, Oregon and Washington state fruit growers, it also includes information relating to a variety of crops, as well as pilot (testing) programs currently being offered throughout these states.

Appendices to this section are curriculum fact sheets. They are efficient and easy-to-use summaries for fruit growers. They also can serve as the primary teaching aid for a specific topic or as a follow-up/handout for a speaker to use who has covered the topic during a meeting, training or workshop.

New, additional, and updated fact sheets continue to be developed and are available, upon request from USDA/Risk Management Agency/Spokane Regional Office, Jo Lynne Seuffer, at telephone number 1-509-353-2147.

INTRODUCTION

‘From generation to generation, keeping the orchard and/or vineyard in the family has forever been a part of a fruit grower’s objectives, crop year strategies, long term goals and the next generation’s dreams.’

Representing an economic entity, as well as way of life, the family fruit grower has one of the most complex businesses to manage. Reevaluating goals is not only viable to the continuation of a family farm business, but sentimentally important as well. Current year objectives, crop year strategies, and long term goals are vital for the preservation and financial stability of all farms.

Weather patterns and orchard markets may not always be cooperative, but the blessings of fresh air, warm sun, cool rain, fertile soil and clean water are some of nature’s most precious gifts. Just as conservation of the land is important for future generations, developing a risk management plan can be just as significant. Possibly one of the best gifts we can give **future generations** is establishing the value of sound farm management, through *risk management strategies*.

Risk is the possibility of adversity or loss and refers to “uncertainty that matters.” Understanding risk is a starting point to help producers make good management choices in situations where adversity and loss are possibilities.

Risk Management involves choosing among alternatives that have uncertain outcomes and varying levels of expected return. For an individual farmer, risk management involves finding the preferred combination of activities with uncertain outcomes and varying levels of expected return. Risk Management involves choosing among alternatives for reducing the effects of risk on a farm, and in so doing, affecting the farms welfare position. Because farmers vary in their attitudes toward risk and their ability to address risky situations, risk management cannot be viewed with a “one size fits all” approach.

In farming, production risk comes with the business and protecting a crop investment by making an informed risk management decision is a bigger factor today than ever before. Fortunately though, farmers today have more and better tools to help them manage risks or, at least, to manage certain kinds of production risks. Crop insurance cannot guarantee that unfavorable weather will not damage or destroy a farm producer’s crop, but it can guarantee if a farmer loses a crop, he/she will not stand to lose the money invested in the crop. Conservation, new technology practices, varied farming methods (organic, sustainable) and chemicals to combat crop-eating insects are other examples of some of the present-day tools to manage risks.

Successful farm and ranch management depends on taking risks consistent with the goals and financial position of the business. Farm producers are aware that farming is a business where they stand to lose more money in a bad year than they stand to make in a good year. Accordingly, producers recognize

Risk Management Agency - Spokane Regional Office

that in order to manage production risks, they must increasingly use all the different management tools available to them.

The objectives of this module are:

- U various sources of production risk associated throughout the fruit industry;
- U sources of production risk that affect the farm/ranch business when alternative actions or plans may be implemented; and
- U various production risk management strategies (including crop insurance) that might be adopted to control or counteract production risk.

Appendices to this section are curriculum fact sheets. They are efficient and easy-to-use summaries for fruit growers. They also can serve as the primary teaching aid for a specific topic or as a follow-up/handout for a speaker to use who has covered the topic during a meeting, training or workshop.

New, additional, and updated fact sheets continue to be developed and are available upon request from USDA/Risk Management Agency/Spokane Regional Office, Jo Lynne Seuffer, at telephone number 1-509-353-2147.

SOURCES OF PRODUCTION RISK

Technology and Crop Production Practices

Some amazing things are going on in field technology and most American farmers are excited about the introduction of cutting edge strategies and technologies. For any new technology, farmers need to estimate the expected costs and benefits for their operation and have a set of criteria they use for their decision as to use it or not. Risks may be reduced with new technology, but a higher level of management and individual analysis for each operation may also be necessary.

There is a lot of technology fruit growers now use every day without so much as a second thought – personal computers, cell phones, or answering machines. The Internet has been one of the highest-profile technological developments, providing an instantaneous link to just about anyone or anything. Orchard producers and suppliers have web sites to market their products. Growers can ask questions and share important information through e-mail and discussion groups. E-commerce, which allows buyers and sellers to complete transactions online, is coming soon. Grower adoption of the Internet as a tool is growing fast.

As a tool for PRODUCTION RISKS, the Internet can provide a grower with direct links to Research Centers and Land Grant University personnel. Producers can obtain recommendations for more knowledge-based farming. Simple online programs that assist with the identification of diseases, insects, chemical injury, and physiological disorders are being developed to find out what is causing symptoms in a fruit orchard. The grower answers a set of questions, such as the leaf color, then if it is yellowing and the location of the yellowing. This can lead to photos and any possible solution.

Growers with Internet access may also want to consider visiting the AG Weather service's Strategic

Risk Management Agency - Spokane Regional Office

Weather Services web site that offers specialized weather products for the energy and agricultural industries worldwide. For 800 unique weather graphics, text reports and data products, go to www.weathermarkets.com

Computer software is making life easier for growers. Predictive models use information (degree days or leaf wetness) collected in the field by data-logging devices to indicate when insect or disease outbreaks are likely. Business software handles everything from production inventory to credit reports to payroll. Harvested production can now be recorded through portable data collection tools (a hand-held computer which tracks almost every labor related activity in the field, from pieces harvested to productivity by the employee). Earlier systems used button probes to record information, but an emerging new technology is the bar code system.

Digital cameras are also a useful new technology tool. A picture of a plant sample can be taken and then transmitted by a cellular modem to a research site, which can download the transmission and provide answers to a grower the same day. Orchardists can also take pictures of their current crop and place it on their web site as a selling tool 'available to pick tomorrow.'

Production techniques and crops are rapidly evolving and improving. Many of the following production risk strategies are being thoroughly adopted each year. Drip irrigation is becoming more widely utilized. Plasti-culture has been a major development in small fruit. And precision agriculture is slowly making its way into orchards and vineyards with growers finding it helps ensure a more even fruit orchard or vineyard block with better overall production. It also allows a producer to precisely parcel out water, fertilizer and other materials, resulting in meeting the requirements of Food Quality Protection Act (FQPA).

Sustainable Agriculture

Sustainable agriculture is a way of farming that can be carried out for generations to come. This long-term approach to agriculture combines efficient production with the wise stewardship of the earth's resources. The USDA Sustainable Agriculture Research and Education (SARE) program defines sustainable agriculture as an integrated system of plant and animal production practices having a site specific application that will, over a long term:

- W** Satisfy human food and fiber needs;
- W** Enhance environmental quality and the natural resource base upon which the agricultural economy depends (protect the natural resource base and prevent the degradation of soil, air and water quality);
- W** Make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls;
- W** Sustain the economic viability of farm operations; and
- W** Enhance the quality of life for farmers and society as a whole.

The most important link between farming practices and sustainable agriculture is the health, or quality, of our agricultural soils. If soil becomes degraded, more resources in terms of time, money, energy, and chemicals will be needed to produce less-abundant crops of lower quality, and the goals of sustainable

Risk Management Agency - Spokane Regional Office

agriculture will not be met. On the other hand, if soil degradation is reversed and soil health is maintained or improved by using appropriate farming methods, sustainable agriculture can be a reality. The approach a farmer and rancher decide to take as they manage these tough issues has come to be known as sustainable agriculture.

Sustainable agriculture does not refer to a prescribed set of practices. Instead, it challenges producers to think about the long-term implications of their practices and the broad interactions and dynamics of agricultural systems.

Farming methods that improve the sustainability of one farm may not be appropriate to a different farm or region. Each practice must be evaluated in a given farming system for its ability to achieve a set of economic, environmental and social goals. However, we can look to changes adopted by farmers across the country, some of which are described below, to get a sense of how to improve agricultural sustainability. The following pages demonstrate a few of these: increased crop and landscape diversity, better utilization of on-farm resources such as crop residue and manure, and more effective marketing. These changes and many other alternative approaches are contributing to the goals of lasting farm production, stewardship of land, water and wildlife, and improved quality of life for farmers, their families and rural communities.

Unlike the organic label, product labels that reflect sustainable practices, such as *natural*, *pesticide-free*, and *free-range*, are currently unregulated and have no defined standards or mechanisms by which to verify compliance to a particular practice.

Elements of Sustainability

There are many ways to improve the sustainability of a given farming system, and these vary from region to region. However, there are some common sets of practices among farmers trying to take a more sustainable approach, in part through greater use of on-farm or local resources. Some of those practices are illustrated here, each contributing in some way to long-term farm profitability, environmental stewardship and rural quality of life.

- 1) Integrated Pest Management (IPM):** IPM is a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health and environmental risks. It is a socially acceptable, environmentally responsible and an economically practical crop protection from pests. A critical factor in the effective use of chemicals for pest management is the timing of application and ensuring the correct herbicide is used for the specific variety being sprayed.

Preparation: Be aware of the potential problems and opportunities in your fields. What pests can you expect, what practices can you take to avoid them, and when and how should you watch for them? What control tactics are available if, despite your best efforts, pests attack the crop? What are the beneficial species that will help you out? What are the strengths and limitations of your operation (labor, equipment, markets)?

Prevention: Use practices that contribute to crop protection for the long term. These include: Biological control; and preserve biological diversity. Grass cover under orchard trees controls soil

erosion, improves tilth and fertility, provides an environment for beneficial insects and earth worms, and good air quality. Crops can tolerate a certain number of pests before economic loss is incurred. This is because control actions have costs as well as benefits. Growers shall determine whether the benefits derived from IPM control will justify the costs incurred.

Implementation: If a control is justified, it must be done properly and at the right time. For instance, weed cultivation is often most effective before weed seedlings are even visible above the soil surface. Releases of biological control agents must be in the proper place, at the proper time.

Re-evaluation: *Short term.* Was the management decision correct and did the action have desired results? How much has the situation changed from last week/yesterday? New judgments are required. *Long term.* What worked well during the season, and what did not? Is the oldest block of apple trees productive and healthy enough to keep in another year? Should they be rotated out to a new variety? Is a soil insecticide necessary?

- 2) **Other Chemical Uses to Manage Production Risks:** Farm chemicals have always improved with the times. An increased focus on safety for people and the environment, as well as the continual battle against induced resistance, have led to a new emphasis on narrow-spectrum material with extremely low use rates. New pest and weed control tools are continually becoming more widely used because of the Food Quality Protection Act. Even plant growth regulators are going to be a greater player, affecting size and shape of apples and increasing the firmness at harvest date. These new materials will require some serious dedication to integrated programs. Growers will need greater knowledge about reducing production risks and timing will be critical.

Weed control is one of the first things a grower will want to think about when planting a new orchard or vineyard. For most perennial grasses and broadleaves, fall herbicide applications (late September through early November) are more effective than spraying in the spring. A combination of spring plowing and summer fallow until mid-July reduces the number of weeds in the soil seed bank but allows time for perennials to re-grow for fall treatment.

Some specific problem weeds include: quackgrass and most other grasses, Canada thistle, field bindweed, and poison ivy. Ways to avoid new weeds/grasses include:

- Do not use the same herbicide or application program year after year.
- Watch for new plant species.
- Do not let weeds go to seed.
- Practice weed prevention – do not allow machinery to carry weed seeds.
- When encountering a new weed never seen before, contact the County Extension Agent. This information will be entered into the Weed Alert System.

- 2) **Alternative to Chemical Uses to Manage Production Risks:** Recent research (USDA's Agricultural Research Service (ARS) Tree Fruit Laboratory, Wenatchee, Washington) has found that growing wheat before planting a new apple orchard on former orchard land may help growers prevent a crippling conditions known as replant disease. Another benefit, it could serve as an alternative to methyl bromide and other soil fumigants typically used to sterilize old orchards before planting new ones.

Risk Management Agency - Spokane Regional Office

When nothing is done between taking out an old orchard and putting in a new one, the young trees are often stunted and have small, decayed root systems. Plant pathologists have discovered that in the Pacific Northwest, replant disease seems to be caused by buildup of four types of soilborne fungi. While soil where apple trees grow supports these fungi, wheat plants seem to modify the soil to favor other microorganisms. Research has found bacterium in some wheat soils (*Pseudomonas putida*) that can protect young apple roots from the destructive fungi. ARS has patented use of a strain of this bacterium to prevent replant disease. ARS is now working to determine how long wheat would have to be grown as a rotation crop to change the soil microbial community enough to prevent replant disease. Further studies include looking at whether growing the wheat as a cover crop in existing orchards can reduce fungal populations sufficiently to allow new trees to grow well.

Researchers at ARS have also found that *mineral coating* (known as kaolin, a white reflective type of clay) could cut chemical use in agriculture. Test plots and further studies have found insects, diseases, sunburn, and heat stress can be controlled and prevented by covering fruit trees, vines or vegetable crops with kaolin. Since kaolin is a physical barrier, it must be reapplied to cover new growth or after a heavy rain. Throughout the western part of the United States, ARS reports clay films have prevented sunburn on apples and walnuts, controlled diseases in orchards and have kept orchards viable several degrees below their normal threshold for frost damage.

- 4) **Pesticides:** Fruit pests have the potential to cause significant economic losses in apple production. Even slightly damaged fruit reduces market value. While biological control is important for a few pests, most fruit pests can be best controlled by monitoring and insecticide spray programs.

What spray materials a grower will be using from year to year to manage production risks is becoming more of a guessing game. No one really knows how the Food Quality Protection Act (FQPA) will shape the future of pest control, or for that matter, where resistance problems will begin to crop up each season. Rather than simply waiting, many producers are taking a proactive step by developing and utilizing a pest management strategic plan.

Local, state and national USDA agencies, along with Land Grant Universities, continue to support and work closely with agricultural groups through test-plot and other pilot programs, evaluating emerging technologies, environmental stewardship, estimation of economic consequences, and various resistance management tools, including information management and dissemination.

- 5) **Soil and Water Conservation:** Many soil conservation methods help prevent loss of soil due to wind and water erosion. Incorporating soil conservation practices within a farm operation may lower a grower's production costs. Reduced tillage within an orchard can be considered a long-run risk management strategy because it will save soil which will allow a producer to remain ahead or at least competitive from a soil productivity standpoint.

Water conservation and protection are an important part of agricultural stewardship and risk management. Many practices have been developed to improve quality of drinking and surface water, as well as to protect wetlands. Wetlands play a key role in filtering nutrients and pesticides, in addition to providing wildlife habitat.

Proper management of nutrients, including nitrogen and other plant nutrients, can improve the soil and protect the environment. Increased use of on-farm nutrient sources, such as manure and leguminous cover crops, also reduces purchased fertilizer costs. Trees and other woody perennials are often underutilized on farms and ranches. Agro-forestry covers a range of tree uses on farms, including inter-planting trees (such as walnuts) with crops or pasture, better managing woodlots, and using trees and shrubs along streams as riparian buffer strips.

- 6) **Thinning:** Chemical thinners have been used in commercial apple orchards for several decades, but thinning remains an inexact science. Researchers are still investigating how these materials work in the fruit and in the tree and how they are affected by environmental conditions and other factors. The thinning process may not be fully understood, but its objectives are clear as thinning:
- Breaks-up the biennial bearing cycle by ensuring return bloom;
 - Improves fruit quality and color by adjusting leaf-to-fruit ratio. Without thinning, some varieties such as Golden Delicious never fully ripen and develop sugars;
 - Improves fruit size; and
 - Ensures timely ripening.

Washington State University's Tree Fruit Research and Education Center advises there are risks in over thinning and suggests that growers in the Pacific Northwest typically apply a bloom thinner at about 60 percent to 80 percent full bloom. Western growers use more conservative rates of thinner compared to eastern growers, noting that it is better to make a second application than to risk taking too much off the tree.

- 7) **Field/Landscape Diversity:** Growing a greater variety of crops on a farm can help reduce risks from extremes in weather, market conditions or crop pests. Increased diversity of crops and other plants, such as trees and shrubs along side an orchard, can contribute to soil conservation, wildlife habitat and increased populations of *beneficial* insects.
- 8) **Root-stock Selection.** Proper root-stock and starter selections to fit a grower's situation is important and can be very condition-specific. That is, there are starters which fit a specific growing area to produce maximum yields under specific growing conditions. If those conditions do not occur, yields may be reduced.

Precision Agriculture

What is precision farming? It is a management strategy that employs detailed, site specific information to precisely manage production inputs by carefully tailoring soil and crop management to fit the different conditions found in each field. This concept is sometimes called precision agriculture, prescription farming, variable rate technology or site-specific management. The idea is to know the soil and crop characteristics unique to each part of the field, and to optimize the production inputs within small portions of the field. The philosophy behind precision agriculture is that production inputs (seed, fertilizer, chemicals, etc.) should be applied only when and where needed for the most economic production.

Precision Agriculture has literally taken agriculture into the space age. Farmers have services available that involve satellites collecting data, transmitting specific location information, or providing data from a variety of sources. Farmers can analyze this satellite information or they can rely on companies to do this service for them for a fee.

Some site-specific management concepts in orchards are more than twenty years old. Farmers have long known there can be great variability in the productivity of large fields or orchards. Elevation, soil type, slope of the ground, history of the land's use and other factors influence production. Until the development of precision agriculture, farmers have not been able to do much about the differences. Now computers, satellites and a variety of related technologies give orchard growers the opportunity to micro-manage their land and crops based on collection and management of a large source of information.

Why should producers be interested in precision agriculture? Precision farming techniques can improve the economic and environmental sustainability of crop production.

The Global Positioning System (GPS) is the heart of precision agriculture. A GPS receiver is a location device that calculates its position on earth from radio signals broadcast by satellites orbiting the earth. The U.S. government has 24 satellites that are constantly orbiting the earth. Variable Rate Technologies (VRT) describes machines that can automatically change their application rates in response to their position. VRT systems are available for applying a variety of substances including seed granular and liquid fertilizers, pesticides and irrigation water.

With global positioning equipment mounted on ATV's or backpacks, growers now can collect yield data and relate it to specific locations within their orchards. Computers allow them to analyze data and prescribe and apply fertilizer applications that vary from place to place in fields. As of May 10, the military quit scrambling signals from its global positioning satellites (before this, signals were scrambled and had to be decoded). Hand held electronic devices costing approximately \$200 could fix the location within 100 yards. Now the same device can fix the location with 10-15 feet.

Precision agriculture is not one technology, but a family of technologies, some of which are quite expensive. It costs several times as much for a computer-controlled sprinkler head than it does for a conventional sprinkler head. Producers should consider two major factors when they evaluate moving into precision agriculture technologies. Startup costs are substantial and will have to be amortized over many years. So growers need think about long-term profitability.

These transitions involve two types of risk: yield and price. Growers cannot control prices, but they can be prepared for the ups and downs of their markets and have adequate financing to handle poor prices during the transitional period. In addition to risk of low yields due to weather or other factors, new technologies also require producers to develop new or improved management skills.

Mapping software is used to organize, display and analyze data stored as a value and a position. Mapping software is available with a wide range of capabilities. Low-end packages are used primarily for creating maps or graphical images, and have little capability to process or analyze data. High-end products are known as Geographic Information Systems or GIS, and have many data processing

Risk Management Agency - Spokane Regional Office

capabilities. Because precision farming requires a relatively high level of data processing, software used for this purpose has become known generically as GIS software. Potential users should consider capabilities such as data editing, interpolation/contouring functions and statistical analysis when purchasing mapping software.

Yield mapping is another essential technique in precision farming. Yield maps show the yield variability within a field. A yield mapping system measures and records the amount of grain being harvested at any point in the field, along with the position of the harvester. The real value for the farmer is that he/she can adjust seeding rates, plan more accurate crop protection programs, perform more timely tillage and know the yield variation within a field. These benefits will enhance the overall cost effectiveness of his/her crop production.

Individuals with questions about sustainable AG and precision agriculture, may contact the following Land Grant Universities: **University of Idaho** at (208)885-6639; **Oregon State University**, contact Extension Service's central number at (541)737-2713; **Washington State University**, 'Center for Sustaining Agriculture and Natural Resources at (509)335-2885.

Organically Grown Crops

Current statistics show Washington State tree fruit farmers are looking more and more to the organic niche. Up from a mere 2,000 acres in 1998, a whopping 29,000 acres were certified for crop year 2000 as organic or transitional in the state, much of that acreage in orchard crops, according to the State AG Department.

Issues such as standardization of organic rules, methods for certifying organic products, procedures for "certifying the certifiers," and definitions of organic food and organic food production continue to be reviewed at the federal and state levels. Farmers and landowners considering the option of organic food production should be aware of these issues and their ramifications. In 1990, as part of the Farm Bill, the Organic Foods Production Act (OFPA) of 1990 was passed which included establishing methods to certify organic products as well as methods to certify the people and organizations who would be certifying organic products. The federal law does not require states to have an organic agriculture policy. However, if a state does pass legislation pertaining to organic production, the federal requirements have to be satisfied.

Farmers should consider the following when deciding whether or not to begin growing organic crops:

1. ***What Is Organic?*** The National Organic Standards Board (NOSB 1996) defines Organic Agriculture as: an ecological production management system that promotes and enhances bio-diversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain and enhance ecological harmony. 'Organic' is a labeling term that denotes products produced under the authority of the Organic Foods Production Act of 1990.

Organic farming is often described as synthetic chemical-free, but as with most rules, sometimes there are exceptions. One question a conventional farmer-operators considering organic production should ask is: "*Does the law expect us to convert quickly and completely to organic production?*" The answer is described in the *National Organic Standards Board's Final Recommendations (p.16)*: "In

Risk Management Agency - Spokane Regional Office

a farming operation where both organic and non-organic fields, crops, or livestock are managed, the time table and level of transition to organic production is at the discretion of the producer.... Organic certification should be determined solely on the basis of the farm's compliance with the OFPA." The interpretation is that as long as what is grown organic stays within the rules, no pressure will be given by the law to quickly convert the producer's entire operation to organic."

2. **Where can I market/sell the organic crop(s)?** The law dictates that organic crops need to be handled, processed, and stored in facilities separate from conventionally grown and handled crops. Markets do exist for organic products. While farm gate sales and U-picks may seem to be the obvious markets, they may not be the best choices, particularly for products that are not marketable to the public unprocessed. Niche markets do exist for organic products, but it is up to growers to find the buyer. Suggestions/steps to becoming a certified organic producer may include: **I** Locate a market for your crop; **I** Determine if acres that you are considering for organic production have been synthetic chemical-free for at least three years, and have records to prove the acres meet this requirement; **D** Learn about the current status of organic- agriculture regulations within the state your land is located; **N** Work with a certifying agent to complete and submit the paperwork for becoming certified.

3. **State Laws:** In the United States, thirty-two states currently have legislation that regulates the production and processing of organic food products. The rules and regulations for these laws vary from state to state. In the Pacific Northwest, Idaho, Oregon and Washington states have set specific guidelines and laws.

4. **State Agencies:** Of the states having organic laws, only Idaho and Washington operate organic certification programs through state agencies. These certification programs are housed in the state department of agriculture, which serves as both the government regulator and organic certification agency according to the state legislative rules. State certification agencies have the ability to enforce organic rules and impose penalties and fines for violations in the production, processing and marketing of organic food products.

5. **Private Organic Certification Agencies:** Oregon is served by the Tilth Certified Organic Certification Association. This organization has its own set of organic standards and requires annual inspections of farms, processors, and handlers in order to be certified. Private certification agencies will often certify producers in states other than the one in which they are located, including states that do not have organic laws.

6. **Registration and Certification Requirements:** Idaho and Washington state laws require annual certification for organic producers, processors and handlers. In order to be certified, applicants must be inspected every year to verify they are following organic standards. Oregon law requires producers, processors, and handlers making organic claims, be registered with the state. Certification is voluntary as organic registration does not require annual inspection or application process.

Organic Weed Control in Perennial Crops

Weed control in perennial cropping systems is a significant challenge to the organic grower. Perennial crops do not allow for the weed control benefits of crop rotation, cover cropping, variety selection and many of the other cultural practices. Once the perennial crop is planted, the weed condition of the field

Risk Management Agency - Spokane Regional Office

will remain fairly constant throughout the life of the planting. Therefore, it is of paramount importance to effectively reduce the weed seed bank and eliminate all perennial weeds before planting perennial crops.

The following are considerations for effective weed control in perennial crops:

1. The chosen spacing of the crop is extremely important as sufficient room for the passage of cultivating equipment must be assured for the lifetime of the crop.
2. When considering tree fruit training methods, density of plantings and irrigation systems will dictate the ease of orchard floor management. Allow space under the tree for passage of weed control devices. Consider a medium density of 500 trees or less per acre to allow for easier weed control under the trees.
3. Cover crops may also provide excellent weed control, such as alfalfa in orchard floors.
4. Weeder geese are extremely effective at weeding out grass in cash crop. Many growers use geese on strawberries, raspberries, potatoes and garlic. They may also be used on tree crops and perennial herbs. Primary consideration must be given to whether or not the crop is able to withstand some trampling by the geese. Also, geese require a commitment on the part of the grower to actively manage their weeding activities.

Insect and Disease Pest Management

When insect pest outbreaks occur, organic growers have three control strategies to choose from: mechanical, biological control, and organically approved insecticide materials. All of these methods should be considered as last resorts. If little or no effort is made to create an ecologically diverse farm environment, economically damaging pest infestations will be a recurring phenomenon.

Mechanical Insect Control Methods

1. Bug vacuums physically remove insect pests. They are non-selective and may remove beneficial insects as well. Bug vacuums are extremely effective when used in combination with a trap crop. For example flea beetles vacuumed off an early radish trap crop reduces flea beetle populations for following brassica crops.
2. The use of floating row covers excludes flying insects. Floating row covers are affordable and available in large enough sizes to allow use on large acreage.
3. In some cases hand removal of insect pests may be the most affordable option. If done in a timely fashion insect pest populations may be held in check.
4. Sticky traps in combination with insect attractants are sometimes effective.
5. Mating disruption for Codling Moth and Oriental Fruit Moth has proven to be an effective method of control. The profusion of female moth pheromones confuses the males and prevents mating. Placement of up to 400 pheromone impregnated twist ties throughout an orchard is necessary.

Biological Insect Control Methods

Biological insect control is an essential component of an organic pest control strategy. Biological control uses insect pest predators, parasites or pathogens to control insect pest infestations. Organic growers may augment beneficial insect populations present in the field, import entire populations or enhance plant diversity in the field and along field edges to provide habitat for beneficial insects.

Insecticide and Disease Control Materials for Organic Production

Broad spectrum botanical insecticides affect a wide array of insects pests, while the narrow spectrum horticultural oils and dusts and insecticidal soaps are somewhat more selective and of lower toxicity. Organically approved fungicidal materials are preventive and usually applied before disease problems are manifested in the field. All of these materials are used only when the non-chemical crop husbandry practices have proven ineffective and pest damage is reaching economically damaging levels. Please contact organic certification agencies for a list of approved materials before applying any insecticide.

QUESTIONS TO CONSIDER:

- Which benefits will new practices provide?** _____
- What flexibility will I give up?** _____
- What are the economic tradeoffs between more aggressive pest control and minimal control?**

- Are my pest management strategies consistent with my management philosophy about environmental quality?** _____
- Will more intensive monitoring of pests be an economical strategy?** _____
- Do I have adequate access to certifiable acres?** _____
- Do I have the skills for producing crops without many of the nutrients and pesticides I may have become accustomed to?** _____
- Do I have the ability and opportunity to market the crop at a premium sufficient to compensate for the additional costs, higher losses, and the paperwork complications?**

Individuals with questions about specific state organic laws may contact:

- Idaho** Department of Agriculture at (208)332-8661;
- Oregon** Department of Agriculture at (503)986-4720; and
- Washington** Department of Agriculture at (360)902-1877.

Individuals with questions about the organic certification process applicable to their area, may contact:

- Idaho Department of Agriculture at (208) 332-8661 - **ID**
- Quality Assurance International at (619) 792- 3531 – **ID, OR & WA**
- Washington State Department of Agriculture at (360) 902- 1877 - **WA**
- Oregon Tilth Association at (503) 378- 0690 – **OR & WA**
- Organic Crop Improvement Association at (402) 477- 2323 – **OR & WA**
- Farm Verified Organic at (701) 486- 3578 - **OR & WA**

Enterprise Diversification

Diversification is an effective way of reducing income variability. It is the combining of different production processes. Effective diversification occurs when low income from one enterprise is simultaneously offset by satisfactory or high incomes from other enterprises. It typically reduces large year-to-year variations in income and may ensure adequate cash flow for meeting production costs, debt obligations, and family living needs. However, diversification may become increasingly costly,

Risk Management Agency - Spokane Regional Office

acquiring an overall knowledge of the alternative business (such as ensuring adequate liability insurance is obtained if customers will be visitors on your farm/ranch) or new crop production expertise and having the necessary equipment for a new crop.)

Expanding into new areas or experimenting with new crops will increase capital investment requirements. For instance, diversification for orchard and vineyard growers can include different varieties, other fruit crops, by having combinations of varieties which are ready for harvest at different times.

Through crop diversification as a production risk management tool, growers may acquire another marketing tool, essentially providing another key as a way to enhance profitability. Direct marketing of the diversified crop to consumers is becoming much more common, including farmers' markets, roadside stands and community-supported agriculture events.

The incentives for diversifying income sources depend on the variability of returns faced by a producer. Diversification can also be achieved through different income sources, such as on-farm businesses (bed-and-breakfast businesses, hunting/hiking guide); off-farm income (savings interest and dividends, employment) to help counter negative fluctuations in farm income.

QUESTIONS TO CONSIDER:

What knowledge and management capabilities do I need for an additional enterprise?

Are they readily available? _____

Is this a product or service that is in demand or has a current long-lasting marketing niche?

Do I have a serious commitment to a new enterprise? _____

Will my current cash flow situation and future plans be able to include a diversification expansion? _____

Which additional capital investments would I need to diversify? _____

What are the added labor needs of a new enterprise? _____

Where are the new markets and are they close in proximity for delivery? _____

What is the income relationship between a prospective new enterprise and my existing enterprise(s)? _____

Will the new enterprise provide effective diversification? _____

Capital Investments

1) **Irrigation.** An effective irrigation system can certainly secure and/or lower the risk of crop failure.

Risk Management Agency - Spokane Regional Office

However, producers must research the total investment cost for an irrigation system which may include: additional labor; land preparation; machinery; sprinkler/irrigation system; ditch/flood irrigation preparation; and possibly a year's income of crop production while the system is being installed or incorporated.

When making irrigation decisions, information is money. Vast improvements have been made with the availability of precise equipment to help orchard growers monitor their water outputs. Vine and tree trunk measuring devices have almost become commonplace in progressive growers' vineyards and orchards. Irrigation systems can tell orchardists precisely how much water their trees need with a new monitoring technique that continuously records plant water status.

Irrigating young trees in the first few years of orchard establishment is critical practice. The goal is to maximize tree growth and root expansion without stressing the trees or waterlogging the root system. Since the roots are constantly growing, it is difficult to know just where and how much water should be applied. Growers are reminded that any plant growth within the orchard will significantly increase water requirements.

2) Fertigation is the application of fertilizers through irrigation water and is more widely used today than ever before. A producer's knowledge of their soil fertility throughout their fields and the irrigation system itself are important factors. As for soil fertility, it may be a good concept to have a lab run tests for phosphorous and potassium in the top 12 inches. It may pay to find those old cut/fill maps and selectively fertilize the cut spots with phosphorous and perhaps potassium. It may also help answer the age-old question: "*Why do some growers get 10 tons (of crop) and some get 20 tons?*" In any case, it may be a good investment to have a competent assessment of the field distribution uniformity (DU) and improve uniformity so that both fertilizer and water are applied evenly across the field. When purchasing a new irrigation/fertigation system, growers are advised to get a written guarantee from the dealer of the system's DU.

3) Drainage. In some areas where spring water runoff or excessive rainfall occurs, drainage systems are set up and used extensively to reduce the risk of crop failure, but the costs can be substantial. Conservation diversions and terracing are also successful.

4) Machinery capacity in excess of what is needed in a normal year allows the work to be completed in a timely manner if there are delays due to weather, breakdown or other unforeseen events. For any capital investment, producers may compare the expected returns with the alternative uses of the capital including other risk management strategies such as a savings account. Since these investment costs are high, producers must also look at strategies which do not require a direct expenditure to reduce risk such as diversification.

QUESTIONS TO CONSIDER:

Is my farming operation in a good financial position to make these investments for improvement?

Will the investment of purchasing new equipment payoff in the long-run? _____

Landlord/Tenant Relationship

Land rental, land acquisition arrangements and negotiation of crop-share lease terms are an increasing risk consideration. Adding this option to your farm management plan is a positive way to bring outside capital into agriculture and share risks with land owners. Keep in mind: If the rental or purchase cost is too high for an individual operation, producers must be willing to pass up the opportunity and select only the situation which will enhance their financial position. Also, utilizing good conservation practices to minimize soil erosion should be maintained consistently with a landowner's philosophies. Producers must also plan their operation so their labor availability, machinery capacity, management structure and land base are all balanced. This is where custom farming may be beneficial/practical.

QUESTIONS TO CONSIDER:

Which benefits will renting land provide/add to my farm operation? _____

What flexibility will I give up? _____

Do I understand the conditions of the contract between my farm business and the landowner?

Do I need legal advice? _____

Contract Production

Contract Production may provide a farm producer the opportunity for a potentially higher commodity selling price, as well as an assured market. Contract production may give the contractor considerable control over the production process. Through production contracts, the agribusiness firm commits the producer to deliver a specific quality and quantity of final product. Contractors may specify in detail the production inputs supplied by the contractor and the compensation to be paid to the grower/producer. The producer must comply with the processor's quality specifications and may elect to manage yield risk with insurance and sound management practices.

Throughout the Pacific Northwest, contract production is a marketing tool used for wine and juice grapes, cranberry, brining cherries, and Bartlett pear growers. Extended contracts are sometimes utilized by wine grape growers.

Before agreeing to a production contract, growers need to consider the risk/reward tradeoffs. A major advantage for the producer is the market guarantee, and sometimes a more favorable price. A disadvantage is the producer may lose the opportunity of benefiting from upside price potential, since the sale of the product may be fixed by conditions of the contract. The loss of flexibility and profit opportunities is the cost of receiving a predictable cash flow. The challenge associated with contract production is to find contracts that are consistent with the growers goals and risk tolerance.

QUESTIONS TO CONSIDER:

Which benefits will a production contract provide? _____

What flexibility will I give up? _____

Do I understand the conditions of the contract? _____

Do I need legal advice? _____

QUESTIONS WITH ANSWERS TO CONSIDER

Farming today is the job of putting science into practice. Chemistry, physics and mechanical engineering are pre-requisites. And there is one more necessary element: the willingness to try new ideas. In the competitive business of farming, ideas are gold. They give a producer an edge. The following are a few question examples to consider when guiding your farm's production risks through a global economy:

What role will you play in the production-to-market process? Boosting an orchard's production efficiencies can be as easy as picking the right variety. To remain profitable in the new millennium, growers may need to diversify their market niche opportunities. The more functions a producer fulfills in the chain and the more contact a grower has at the end market, the greater the real risk as well as the potential rewards. Some in the process include:

- GROWER of products, ingredients, components or raw materials;
- PROCESSOR of finished goods in marketable condition;
- DISTRIBUTOR to processors, wholesalers or retailers;
- RETAILER of farm-produced or processed food and products;
- DIRECT MARKETER using farmer's markets, road-side stands, mail order/Internet;
- ORGANIZER of fellow producers for bulk marketing purposes.

These roles identify how much a grower wants or plans to participate in the marketability of his/her crop. Choices made to produce organic fruit or to diversify with different varieties involves production risk decisions that stretch into the delivery and marketing of the production.

Are you producing varieties popular with current and emerging markets? Select fruit crops for the highest margin and those that fit local growing conditions, facilities and technology, including equipment. While consumer preferences are continually shifting, being an informed producer keeps up with them rather than failing to understand the demands of the U.S. food consumer.

How do you produce to gain the greatest production efficiencies and capitalize on various strengths of your family's orchard? This is where control of frost (orchard heaters, wind machines), irrigation (drip, flood, pivot) and fertilization (dry, through irrigation, not at all) and organic vs conventional decisions have a strong effect on your willingness to accept risk. Today, even to the buyer, how a product is produced has become as equally important as to what the variety is. Production preferences are a luxury of this high-yield era of abundance in global agriculture.

Who do you sell to based on greatest short-term and long-term opportunities? For certain fruit crops, a long-term contract for a chosen percentage of a year's production might be a good concept. This would ensure that one buyer did not have control over the farm's livelihood. Reserving a remaining percentage for more speculative cash markets may leave room for upside opportunities. Also, committing a portion to a producer-owned cooperative could balance the enterprise portfolio among a number of buyer categories, each of which might pay differently.

Production decisions, marketing choices and staying well informed are precious things to the success of all businesses.

CROP INSURANCE

One of the most common strategies used to reduce income variability associated with production risk is crop insurance. The two most common types are private crop hail and Multi-Peril Crop Insurance (MPCI). A listing of crop insurance definitions and terms are provided in Exhibit 1.0.

The first decision an orchard producer must make concerning crop insurance is whether enough financial reserves exist to cover a disastrous crop year. If the answer is no, then crop insurance may be an option to consider an overall risk management plan.

Management of yield or price risk through the purchase of crop insurance transfers risk from the farm business to the insurer in exchange for a price which is stated as an insurance premium. If a producer can insure some part of their expected production, that level of production may be contracted with a buyer for a greater certainty, creating a more predictable level of revenue.

Crop insurance is a risk management tool that not only protects against losses but also offers the opportunity for more consistent gains. When used with a sound marketing program, crop insurance can stabilize revenues and potentially increase average annual profits.

Crop insurance provides many important benefits:

1. Ensures a reliable level of cash flow;
2. Is an honorable and sometimes recommended loan collateral tool;
3. Allows more flexibility in a producer's marketing plan;
4. Adds confidence when following those planned strategies;
5. Provides stability for long-term business plans and family security;
6. USDA shares in the premium costs, and more (MPCI).

Some of the major sources of production risks include weather, pests and crop diseases.

USDA's Risk Management Agency (RMA) is placing a special emphasis on strengthening the safety net for U.S. orchard and vineyard growers. Together, RMA and private crop insurance companies have developed a set of insurance programs to help control crop production and price risks at a reasonable cost.

Farm orchard and vineyard producers should consult a private crop insurance agent to obtain specific information and details (e.g., practices, options, planting dates, and appropriate deadlines) to help decide what insurance program may best fit the needs of their farm business. A list of crop insurance agents is available at all USDA Service Centers throughout the U.S. or at the website address:

www.rma.usda.gov/tools/agents/.

The information in this section includes specific crop insurance information which may help orchard and vineyard growers learn more about various methods to lower production yield risks and revenue risks (Cherries & Adjusted Gross Revenue insurance program).

Crops eligible for MPCCI Coverage for 2001 in the Pacific Northwest

Refer to the attached State Crop Fact Sheets and Crop Data Tables in the Appendix at the end of this section for summaries of crops available in each STATE and COUNTY).

<u>ALASKA STATE</u>	<u>IDAHO STATE</u>	<u>OREGON STATE</u>	<u>WASHINGTON STATE</u>
Barley, Cabbage, Nursery, Oats, Potatoes, Wheat	<u>Apples</u> , Barley, Canola, Corn, Dry Beans, Dry Peas,	<u>Apples</u> , Barley, Cabbage, Canola, <u>Cherries</u> , Corn,	<u>Apples</u> , Barley, Cabbage, Canola, <u>Cherries</u> , Corn,

<u>ALASKA STATE</u>	<u>IDAHO STATE</u>	<u>OREGON STATE</u>	<u>WASHINGTON STATE</u>
	Green Peas, <u>Grapes</u>, Nursery, Oats, Onions, Potatoes, Processing Beans, Processing Sweet Corn, Safflower, Sugar Beets and Wheat	<u>Cranberries</u>, Dry Beans, Dry Peas, Forage, <u>Grapes</u>, Green Peas, Nursery, Oats, Onions, <u>Pears</u>, Potatoes, Processing Beans, Processing Sweet Corn, Sugar Beets and Wheat	<u>Cranberries</u>, Dry Beans, Dry Peas, Green Peas, <u>Grapes</u>, Mint, Nursery, Oats, Onions, <u>Pears</u>, Potatoes, Processing Beans, Sugar Beets, Processing Sweet Corn and Wheat

- *Not all of the crops listed above are insurable in all states/counties - contact your crop insurance agent for specific details.*
- *USDA/Risk Management Agency (RMA) is placing a strong emphasis toward developing new risk management tools for crops not currently covered by a crop insurance plan.*

Yield Risk Crop Insurance Coverage

Multiple Peril Crop Insurance Protection Program

Multiple Peril Crop Insurance (MPCI) is often used by crop producers to reduce yield risk. MPCI is a broad-based crop insurance program regulated by the U.S. Department of Agriculture and subsidized by the Federal Crop Insurance Corporation (FCIC).

Insurance Policy

Policy Duration: MPCI policies are continuous contracts and remain in force until: 1) canceled in writing by either the insured or the Insurance Provider on or before the cancellation date for the effective crop year, 2) the policy is terminated by the Insurance Provider because the applicable administrative fee or any other unpaid amount (e.g., overpaid indemnity, premium) was not paid. The cancellation and termination dates are found in the applicable crop provisions.

Policy Cancellations: The insured or Insurance Provider may cancel a continuous policy for any crop year following the initial crop year insured by giving a signed notice to the other party on or before the cancellation date that precedes the crop year. A request made by the insured to cancel a crop/policy after the cancellation date will be effective the following crop year.

Insured Cause(s) of Loss. Insured causes of loss (and any limitations) are stated in each crop's policy

provisions. For most crops, MPCI covers unavoidable production losses caused by drought, excessive moisture, hail, wind, frost/freeze, tornado, lightning, flood, insect infestation, plant disease, excessive temperature during pollination, wildlife damage, fire, volcanic eruption, and earthquake. MPCI does not cover losses resulting from poor farming practices, low commodity prices, theft, and specified perils that are excluded in some policies. There are specific restrictions on some crops based on acceptable farming practices. Other insured cause(s) of loss due to natural disasters may be determined by the Secretary of Agriculture. (Please note a more specific listing of insured causes of loss is included by crop within each respective crop fact sheet.)

Actual Production History (APH - Yield Guarantee)

For most orchard crops, the yield guarantee is the actual production history (APH) yield times the level of coverage, times the insured acreage, multiplied by the insured's share. The APH is used to set the guarantee, and the base period for each APH database is determined by consecutive APH CROP YEARS, not calendar years. True risk protection must be based on a farm's own production potential. Proving historical yield records is the most realistic method of estimating it.

Selecting Coverage – Two Variables

1. Levels of Insurance Coverage

Producers can choose from 50-75 percent (85 percent for some crops) in 5 percent increments, of the Actual Production History (APH) yield. The APH program is defined in greater detail on page 28.

Coverage options include, but are not limited to the following percentage yield and price levels:

50/55 lowest cost... lowest coverage (CAT)

50/100 maximum percentage of premium subsidy... protection level still below most frequent loss levels

70/100 raises coverage to more frequently experienced levels of loss

75/100 maximizes protection... generally maximizes subsidy benefit

Up to 85% coverage for some crops in selected counties for 2001 crop year, including Apples and Grapes in Washington State which are approved to provide the Coverage Enhancement Option endorsement.

How much coverage should a producer purchase? There are two decisions that determine the amount of protection obtained from MPCI:

The level of yield coverage chosen

The level of price coverage chosen

The insurance yield is based on a producer's APH, which is an estimate based on the average yield on the insured unit for four to ten consecutive years. The yield guarantee per acre is equal to your APH insurance yield multiplied by the level of coverage chosen.

Price Elections

For what price is the crop insured? The price per unit of measure is issued by Risk Management Agency (RMA) prior to each crop year. This price election is used to establish the insurance guarantee,

premium, and to compensate the insured in the event of a production loss occurs. Producers have a choice of various percentage level Price Elections established for each crop year (55 percent to 100 percent of FCIC established or projected market price). For example, 2001 crop year price elections set by RMA for perennial crops insured in the Pacific Northwest are provided in the Price Election fact sheet included in Exhibit 6.0.

Example of a producer's coverage level and price election guarantee payment options.

(Assume: Apple crop, 100 percent share, average yield of 800 boxes/acre and \$4.90/box price election):

Producer selecting 50 percent coverage and 100 percent price election:

800 box yield X 50% coverage = 400 boxes
\$4.90 price election X 100% price election = \$4.90
400 box guarantee X \$4.90 = \$1,960 per acre guarantee

Producer selecting 75 percent coverage and 60 percent price election:

800 box yield X 75% coverage = 600 boxes
\$4.90 price election X 60% price election = \$2.94
600 box guarantee X \$2.94 = \$1,764 per acre guarantee

Producer selecting 75 percent coverage and 100 percent price election:

800 box yield X 75% coverage = 600 boxes
\$4.90 price election X 100% price election = \$4.90
600 box guarantee X \$4.90 = \$2,950 per acre guarantee

How are indemnity payments calculated? If a grower's actual average yield (adjusted for quality) is equal to or greater than the yield guarantee, no indemnity is paid. If the average yield per acre is less than the yield guarantee, the indemnity paid is equal to the yield difference times the indemnity price, times the number of acres insured, times producer share.

Are indemnity (loss payments) taxable income? Yes, however, they can be reported in the tax year following harvest if you normally sell half or more of your crop then. All of the insurance payment must be deferred if any of it is. The farmer must attach a statement to the tax return for the year of crop loss describing the loss and the time it occurred, the normal marketing pattern followed, the amount and date of payments received, and the name of the insurance company involved. Both crop insurance and USDA disaster payments must be reported in the same manner.

How much does crop insurance cost? Premium rates are based on the coverage level chosen and the loss history for the county farm. The premium rate, as a percent of the dollar value of protection, also varies with the APH yield. Premium per acre is calculated as follows:

Insurance APH yield
X share
X percent yield coverage election

- X price election
- X premium rate
- X subsidy factor

Insurance Premium USDA Subsidized Payments The 2000 Act made crop insurance more affordable and useful to producers through increased subsidies for buy-up coverage and provides increased Federal backing for insurance that provides both yield and price protection.

Subsidy Levels (Amount of Premium Paid by USDA)			
Policy Coverage Levels	Current APH	Current Crop Revenue (varies by crop differential)	2000 Act New Subsidy Levels APH & Revenue
50/100	55%	42%	67%
55/100	46%	35%	64%
65/100	42%	32%	59%
70/100	32%	25%	59%
75/100	24%	18%	55%
85/100	13%	10%	38%

Later in this module are specific examples for apple premium and indemnity calculations. Crop Insurance agents can provide a grower with many different options for which will best meet the risk management needs of the orchard and/or vineyard.

Linkage Requirements. A producer must obtain at least CAT coverage for each crop of economic significance **OR** sign a "waiver" of any eligibility for emergency crop loss assistance. to be eligible for benefits under the Agricultural Market Transition Act (AMTA); loans or any other USDA-provided farm credit, including guaranteed and direct farm ownership loans, operating loans, and emergency loans under the Consolidated Farm and Rural Development Act provided after October 13, 1994; and benefits under the Conservation Reserve Program provided by any new or amended application or contracts executed after October 13, 1994. Execution of a "waiver" does not affect the producer's ability to participate in any Federal crop insurance program administered under the Federal Crop Insurance Reform Act of 1994.

Administrative Fees. *The Agricultural Risk Protection Act of 2000 (2000 Act)* included changes to *administrative fees* paid by eligible producers. For Catastrophic Risk Protection (CAT) (see page 35 for specific details), a producer must pay \$100 for each eligible crop insurance contract in each county. The administrative fee will be billed on the date contained in the Special Provisions. For coverage at levels in excess of CAT, the administrative fee is \$30 per crop per county. Administrative fees for CAT and additional levels can be waived for *Small-Limited Resource Farmers*.

Administrative fees are due annually on the date the premium for additional coverage are due as indicated by the following chart. The fees are paid to the insurance provider. Third parties are prohibited from paying administrative fees on behalf of producers/insureds. Insurance Providers, insurance agents, producer associations, grower groups, farm cooperatives, etc., may NOT pay administrative fees for producers/insureds. Only those persons acting in place of the producer/insured under a power of attorney, landlord/tenant agreement, or a legal guardianship, may pay the administrative fee.

Important Dates/Deadlines

Even the best crop insurance plan is of little use if the right information is not collected and submitted on time. Likewise, if certain actions are not completed by the necessary date, producers may not receive full benefit from the risk protection they have selected. The following are important crop insurance dates to be noted:

Sales Closing Dates. To participate, a person must apply for insurance on or before the applicable sales closing date. This is the last date to apply for crop insurance coverage for any FCIC policy, or make changes in coverage from the previous year. Growers need to decide by this date the type of policy and the level of protection they want. Sales closing dates vary by crop and by state. Private hail insurance can often be purchased throughout the growing season. Sales closing dates falling on Saturdays, Sundays, or legal holidays are extended to the next business day.

Acreage Reporting Date: Producers must report (by type and or varietal group, if applicable) the number of bearing trees on insurable and uninsurable acreage for apples, cherries, grapes and pears. For cranberries, producers shall report the acres of cranberries for which the insured grower has a share.

Billing Date: Although premiums are payable on the day after the sales closing date, the policy holder will not be billed until the premium billing date. Generally this date falls near harvest (billing dates for all Pacific Northwest perennial fruit crops is September 15 of the current crop year). Interest charges begin to accrue 30 days after this date on any premium payments not yet paid, at the rate of 1.25 percent per month. If an indemnity payment is made, any premiums still due will be deducted from these payments.

End of Insurance Period: Following this date, the farmer no longer has any production or revenue guarantee on the crop. This date is the earliest date the crop is harvested, abandoned, or totally destroyed, the day the final adjustment on losses is made, or a specific calendar date set in each crop policy.

Date to File Notice of Damage: This is the last date to report actual production or quality losses in order to receive an indemnity payment. Notice is required within 72 hours of the discovery of the damage, but not later than 15 days after the end of the insurance period. Producers shall provide notice of loss damage or probable loss to the Insurance Provider without delay to determine whether or not an inspection is necessary when the following occurs:

1. During the period before harvest, the insured crop on any unit is damaged to the extent that

Risk Management Agency - Spokane Regional Office

the insured does not expect to further care for or harvest any part of the acreage. Such acreage must be left intact until inspected.

2. The insured wishes to put insured acreage to another use. The insured must NOT put acreage to another use before the crop's potential production is appraised and written consent is given for such other use.

3. An indemnity or replanting payment is to be claimed on any unit.

Policy Termination Date: If premiums are not paid by this date, the insurance coverage for the following crop year will be terminated.

Cancellation Date: This is the last date to give written notice to the insurance company if the grower does not wish to carry crop insurance the next year. Otherwise the policy will renew automatically for another year.

Production Reporting Date: This is the date to submit the most recent crop production records from which to recalculate the Actual Production History (APH) yield. The production reporting date is usually 45 days after the policy cancellation date. If the acreage reporting date (for the following year) is earlier than this, then that is the last production reporting date.

Producers should make a list of the important dates (which follow) that apply to their insured crops and mark them on a calendar. This will allow producers to enjoy the full level of risk protection they have purchased.

Program Dates (ID, OR, WA) {Generally for MPCI, unless otherwise noted. Dates falling on a weekend/holiday move/apply to next business day.}			
CROP	Final Sales Closing Date	Final Production Reporting Date	Final Acreage Reporting Date
By Crop (Alphabetically)			
Adjusted Gross Revenue	01/31	n/a	n/a
Apples	11/20	01/04	01/16
Barley (MPCI)	03/15	05/30	07/02
Barley (Income Protection, Revenue Assurance-ID State)	03/15	04/30	07/02
Cabbage (Pilot Program - Oregon & Washington)	02/01	03/19	Varies by type***
Cabbabe (Alaska)	03/15	04/30	07/02
Canola (Counties with Fall & Spring Planted Types)	08/31	10/16	12/15
Canola (RA, Idaho Counties with Spring Planted Types)	03/15	04/30	07/02
Cherries (Fixed Dollar Plan)	11/20	01/04	01/16
Corn	03/15	04/30	07/02
Cranberries	11/20	01/04	01/16
Dry Beans	03/15	04/30	07/02

Risk Management Agency - Spokane Regional Office

Dry Peas	03/15	04/30	07/02
Forage Production	10/02	11/14	12/15 (*07/02)
Grapes	11/20	01/04	01/16
Green Peas	03/15	04/30	07/02
Mint with Winter Coverage	10/02	11/14	12/15
Mint without Winter Coverage	03/15 ****	04/30 ****	07/02
Nursery (0073 FG & Container)	05/31****	N/A	*****
Oats	03/15	04/30	07/02
Onions (Fall Types)	08/31	10/16	12/15
Onions (Spring Types)	02/01	03/19**	07/02
Pears	11/20	01/04	01/16
Potatoes	03/15	04/30	07/02
Processing Beans	03/15	04/30	Varies by County
Safflower	03/15	04/30	07/02
Sugar Beets	03/15	04/30	07/02
Sweet Corn	03/15	04/30	07/02
Wheat (Basic MPCl,Matanuska Susitna, Alaska)	03/15	04/30	07/02
Wheat (Basic MPCl, Basic CRC, IP, RA - Idaho State Only)	10/02	11/14	07/02
Winter Wheat Endorsements (MPCl, CRC, RA - Idaho State Only)	10/02	11/14	12/15
* Acreage Reporting Date for initially spring planted forage the first year of coverage only			
** Production Reporting Date = 10/15 for carry over insureds in Umatilla and Walla Walla Counties.			
***Fall planted - 4/30; Spring planted - 6/20; Summer planted - 8/10			
**** First year of coverage only			
***** Plant Inventory Value Report must be submitted with the application and for each subsequent crop year; not later than 9/1.			

Actual Production History (APH - Yield Guarantee)

For most orchard crops, the yield guarantee is the actual production history (APH) yield times the level of coverage, times the insured acreage, multiplied by the insured's share. The APH is used to set the guarantee, and the base period for each APH database is determined by consecutive APH CROP YEARS, not calendar years. True risk protection must be based on a farm's own production potential. Proving historical yield records is the most realistic method of estimating it.

The APH yield is determined from a producer's certification of production records for a minimum of four, and up to ten consecutive crop years for each insurance unit (for cranberries, grapes, pears) and five years for apples. Information used to prove crop yields can include sale receipts, farm or commercial storage/packer records or pick records. Records must be for continuous years, starting with the most recent year and continuing back in time. Once a missing year is reached, no history prior to that date may be used. For example, if a producer has nine years of production records spanning a ten-year period, only the years after the missing one are counted. Dropping a yield from one year because of poor production is not allowed. An exception is made if the crop being insured was not planted in a certain year. In that case a zero acreage report is submitted and continuous records are maintained even without data for that year.

The first step in developing a crop risk management program for a farm is to establish the proven yield and unit structure. The (APH) is used to set the guarantees under Apple, Pear, Cranberry and Grape FCIC-backed insurance plans (except for Dollar Plans of Insurance like Cherries).

Transition Yields

Yield levels for most FCIC crop insurance coverage is based upon APH **or** a percentage of an established county yield or a combination of both. APH will require a minimum of four years of production records and will accumulate to a maximum of ten years (five years for apples) of production records. For farmers who have less than four years of production records, variable Transitional "T" Yields are used to complete the four-year database. However, the approved APH yield for producers who elect not to supply records is limited to 65 percent of the applicable "T" Yield for the first year the producer is insured. T-yields may be established by tree age and densities.

If only a few years of yield records exist, the APH yield may be considerably below the actual expected yield because of the reduced T yields. A new farmer or one who has never planted or produced the crop to be insured will receive 100 percent of the T yield for the APH. If he/she continues to produce the perennial crop, the T yields will be replaced with the actual production each year. New producers who have previously been closely associated with farming a particular unit, such as children taking over a family farm, can use the previous operator's records to establish an APH yield. See your crop insurance agent for specific details.

Once four years or more of production history are available, the APH is the simple average of all the yearly reported yields. The four years of history will eventually build to ten years (five years for apples). After ten years of history are reached, the APH becomes a moving ten-year average yield. As each new year of production history is added the oldest record is dropped out of the calculation.

T Yield reduction factors are 65% of the County T Yield with no years of production records certified; 80% of County T Yield with one year of records; 90% of County T Yield with two years of records; and 100% of County T Yield with three years of records certified. The following example assumes a County T Yield of 1100 boxes per acre for apples.

Years of Actual Production Records	Factors	County T Yield Boxes/Acre	Adjusted APH Yield Boxes/Acre Coverage
0	.65	1100	715
1	.80	1100	One Actual, Plus Three Years of T-Yields at 880 Boxes Each
2	.90	1100	Two Actual, Plus Two Years of T-Yields at 990 Boxes Each
3	1.00	1100	Three Actual, Plus One Year T-Yield at 1100 Boxes
4	No Factor	—	—

For most perennials (not Apples), when a new yield record is added to the APH history, a cap of ten percent applies. That is, the proven yield is not allowed to decline by more than ten percent in one year. Likewise, when a bumper crop record is added, the APH cannot increase by more than 20 percent in one year (a cap). A bumper crop yield will eventually work its way completely into the average because the following year the APH can again increase up to 20 percent.

Example of Providing Production Evidence

YEAR	YIELD	YIELD
96	No records	750 b/a
97	748 box T Yield	950 b/a
98	748 box T Yield	1000 b/a
99	748 box T Yield	1100 b/a
00	1050 Box Actual Yield	1050 b/a
3294 Total Box Divided by	4850 Total Box Divided by	
4 years = 824 Box/ac.	5 years = 970 Box/ac	

T-Yield is based on 10 year old orchard/Map area 2 (Sunnyside)
146 BOX / AC Difference

Although the APH is usually just a simple average of production history for each insurance unit, a grower who enters farming, adds new land, plants a new crop, produces a bumper crop or has a crop failure can cause one or more of the special provisions to be implemented. That is why it is a good idea

to establish the APH for each insurance unit with a licensed crop insurance agent long before the sign-up date. Even for the CAT level of coverage, an APH value for each farm unit is needed.

ACREAGE AND PRODUCTION EVIDENCE REQUIREMENTS (APH)

Certifying production history is an important, and sometimes critical, facet of an insurance policy. Certified production provides flexibility to the insurance policy, essentially making the policy better tailored to meet the needs of the farm business’s risk management plan, and may maximize any FCIC crop insurance coverage.

Production to count is all harvested and appraised production for the unit. Appraised production includes, but is not limited to, production lost to uninsured causes, and mature unharvested production (may be adjusted for quality deficiencies and excess moisture). Keeping records, verifying production, and providing actual production history can raise guaranteed yield levels used in coverage calculations.

The following example illustrates how important APH records are. Assume coverage for apples is 1100 Boxes average yield; 900 Box County T yield; 75 Percent Coverage Level and a \$4.90 Expected Market Price.

<u>NO Production Records Provided:</u>	<u>65% of the T Yield of 900 Boxes = 585 Boxes</u> <u>75% Coverage Level X 585 Boxes = 439 Boxes</u> <u>439 Boxes X \$4.90 = \$2,151.10/acre Guarantee</u>
<u>Production Records Provided:</u>	<u>75% Coverage Level X 900 Boxes Proven Yield = 675 Bushel</u> <u>675 Boxes X \$4.90 = \$3,307.50/acre Guarantee</u>

Acceptable Production Reports and Supporting Evidence

Acceptable records are required which support the approved APH yield. If selected for field review, supporting evidence is required to be available by the insured for all the crop years for which acreage and production was certified on the current crop year APH form (by crop). Acreage and production evidence must be retained by the insured for three crop years after the end of the crop year for which it is initially certified. The following acreage and production evidence requirements pertain to orchard and vineyard crops using the APH form as production reports.

Additional APH Provisions by Fruit Crop – Acceptable Supporting Documentation for APH Certifications

Apples. Certified records including printouts or receipts from each first handler of the fruit for that crop year must show total marketable (as defined in the policy) production (in bushels, bin count, or weight delivered) by variety. A printout or receipt from a packing shed, processor, auction, marketing

cooperative, jobber, commission merchant, sales broker, pick records or a warehouse receipt which shows total production and date of transaction is acceptable. Bin count, cartons, crates or weight must be converted to the appropriate unit of measure. If insured under the Fresh Fruit Option or Sunburn Option and a claim for indemnity has been completed, total marketable production from the claim prior to adjustment for quality is used for APH purposes.

Cranberries. Truckload weight receipts, berry slips, settlement weight sheets, sales receipts, final or year-end statements from a processor or packing house must indicate net paid barrels of cranberries delivered or stored for each unit.

Grapes. Settlement sheets, sales receipts, final or year-end statements from a winery, cannery or processor must indicate net paid tons of Grapes delivered by variety. Production for Grapes harvested before normal maturity or for special uses are used for APH purposes when adequate records are available. The production of such Grapes will be increased by the factor calculated by dividing the price per ton for such Grapes by the price per ton for fully mature Grapes of the same type (as stated in the crop provisions).

Pears. Certified records including printouts or receipts from each first handler of the fruit for that crop year must show total production in tons by variety. A printout or receipt from a packing shed, processor, auction, marketing cooperative, jobber, commission merchant, sales broker, pick records or a warehouse receipt which shows total production and date of transaction is acceptable. Bin count, cartons, crates or weight must be converted to the appropriate unit of measure. For all states except California, field-run marketable production is acceptable.

All acceptable production reports that are continuous, signed, and submitted by the production reporting date (PRD) by the insured for the applicable base period, will be used. Once acreage and production are certified, they will remain in the insured's database. Additional acreage and production may be certified and included in the database as long as the continuity and all other requirements are met. Acreage and production cannot be dropped or removed from the database without RMA approval.

Acceptable Pick Records When pick records are allowed as production evidence, they must meet basic requirements plus the requirements outlined as follows:

Name: Pick records must indicate names of the individuals paid by the grower (crew leader or picker).

Photocopy of Actual Records: A photocopy of complete pick records for the crop year must be submitted to the Insurance Provider. These records must be the actual running tallies of production harvested by the pickers; a summary of the pick records is not acceptable unless it is not feasible to photocopy all the material. In this instance, a summary which itemizes each invoice or transaction may be submitted with an example of the pick records used to calculate the total production. The pick records must also be legible, understandable and reasonable when explained by the insured. Such

records must accompany the APH form.

Verifiable Receipts: Pick records must be accompanied by verifiable receipts such as a photocopy of the canceled check(s) showing the banking institution's stamp of payment. If this is unavailable, a copy of payments made to the Social Security Administration for tax payments made on behalf of the picker(s) is acceptable. The insured must also identify the price paid per volume picked, converted to the insurable unit of measure (bushels, lugs, or boxes), and weight per bushel, lug, or box.

Calculations Used: Pick records must include the calculations used to determine total production or be accompanied by a cover page which shows the calculations used to determine the production shown on the APH form. All calculations must be verified by the RMA/Insurance Provider. All bin, volume, and weight figures must be converted to the insurable unit of measure (bushels, lugs, or boxes), and weight per bushel, lug, or box.

Other Acceptable Records: If production is marketed directly to the consumer, a pre-harvest appraisal (performed by RMA Regional Office/Insurance Provider) is required by the policy, unless the actuarial document for the crop has provisions that allow the RMA Regional Office to waive this requirement, based upon evidence that acceptable supporting documentation is being maintained. A daily accounting of sales is acceptable unless the actuarial document for the crop requires a pre-harvest appraisal for APH purposes. The daily account must be a photocopy of the insured's actual ledger. Tax forms or other receipts of verification must be submitted showing the income and production derived from the sale. Pick records alone, if production is marketed directly to the consumer, are not acceptable if the actuarial table indicates an appraisal must be made for APH purposes.

Units

Each parcel of land insured independently of other parcels is called a 'unit' and is defined as the acreage of the insured crop in the county which is taken into consideration when determining the guarantee, premium, and amount of any indemnity (loss payment) for that acreage. Unit structure is a very important aspect of maximizing the risk management protection offered by various FCIC insurance policies. One farming operation may have several insurance units. It is possible to be hailed out on one unit and receive an indemnity payment, while other units on the same farm produce a record crop. As a result, many farmers like to divide their land into as many units as possible. Of course, this may result in higher premiums on each one.

Producers can designate a basic unit for all tracts of land they own or cash rent within a county. They also receive one basic unit for all of the land they share rent with a different landlord. For example, if a crop is planted on land rented under a crop share lease with Mr. A, a crop share lease with Mr. B and a cash rent lease with Mr. C and the rest of the crop land is owned, the entire acreage would qualify for

three basic units. There would be one basic unit with each crop share owner, and one basic unit for the cash rented and owned land combined. Each crop share landowner can also insure his/her own interest in the crop as a separate unit.

Each different crop (and varietal groups for grapes, pears, and Option C for apples) can also create a separate unit, and tracts of land in different counties must be insured as separate units. Each crop can have a different type of policy and level of coverage, and could receive an indemnity payment independent of the other units. Separate production records must be kept for each basic unit. Insuring all acres as basic units entitles producers to a ten-percent discount on their premiums. Following are two types of unit structure available for the various crop insurance options:

Basic Unit: The basic insurance unit is all insurable acreage of the insured crop in the county on the date coverage begins for the crop year in which the producer has a 100 percent share or which is owned by one entity and operated by another specific entity on a share basis. Basic units may be further divided into optional units.

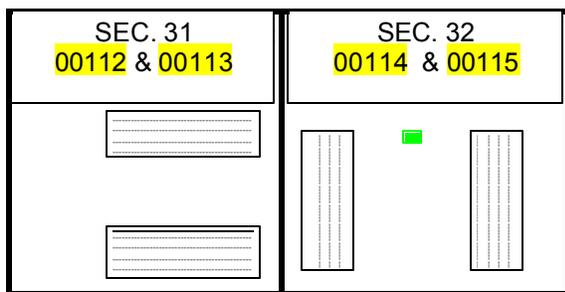
Optional Unit: Optional insurance units are determined by section, section equivalents, FSA Farm Serial Number, noncontiguous land (for certain perennial crops) and irrigated and non-irrigated practices. When the policy allows, optional units may be established, provided the crop is planted in a manner that results in a clear and discernible break in the planting pattern at the boundaries of each optional unit. Producers must keep separate identifiable records of planted acreage and harvested production for each optional unit.

If the same four farms described above were all owned or rented under a cash lease, they would qualify for only one basic unit for each crop. However, if the four farms were located in four legally identifiable township sections, the operator could elect to insure them as four separate optional units. Separate APH records must be reported for each optional unit, and the operator would not receive the ten percent premium discount.

Optional units may also be designated when a crop is being grown under distinctly different farming practices. For example, a grower with both irrigated and dryland acres of the same crop may qualify for optional units. However, there must be an obvious break between the irrigated and dryland acres. Other special farming types or practices may also qualify acres to be insured as separate units.

Each crop policy provides specific in relation to unit structure. The following are four examples of different unit structure scenarios:

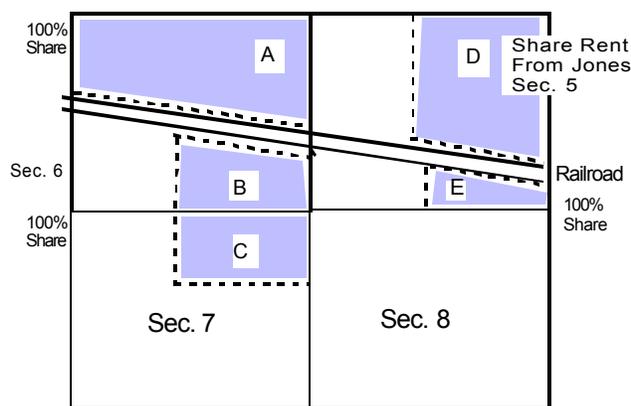
EXAMPLE 1



‘Contiguous land’ means separate tracts of land owned and/or operated by the insured, whose boundaries touch at any point. For certain crops, optional units are available for contiguous land. Land under separate ownership must lie in-between in order for farms to be considered as non-contiguous, and thus be eligible to be divided into separate optional units. 4 optional units

EXAMPLE 4

Same Operator - All Irrigated – All One Crop



Land separated by public or private right-of-way will be considered contiguous. Farm roads, section, section lines, streams, railroads or major highways do not make farms non-contiguous. Therefore, in example 4, there are two basic units, AND if the producer wishes, one additional optional unit (Field E).

Contract Changes

MPCI is a continuous policy and will remain in effect for each crop following the acceptance of the original application. Producers may cancel the policy, a crop, a county, or a specific crop in a specific county, after the first effective crop year, by providing written notice to the insurance provider on or before the cancellation date shown in the applicable crop provisions. Producers must request policy changes from their insurance provider on or before the sales closing date for a change of price election or coverage level. In addition, requests to increase the maximum eligible prevented

planting acreage above the limitations contained in the crop policy must be made by the sales closing date for the applicable crop. Contract changes involving a successor-in-interest application and corrections of a producer's name, address, identification number, administrator, etc., may be made at any time.

Reporting of Acreage and Crop Damage

Each crop year the producer is required to submit an acreage report for each insured crop. The acreage report must be signed and submitted by the producer on or before the acreage reporting date contained in the Special Provisions for the county for the insured crop. In the event of crop damage, producers should immediately notify their insurance provider of the damage. Each crop insurance policy provides specific details relating to acreage reporting.

Catastrophic (CAT) Crop Insurance

Catastrophic (CAT) insurance is the minimum level of multi-peril crop insurance coverage at 50 percent of a producer’s yield and 55 percent of the price, and meets requirements (without a waiver) for a person to qualify for certain other USDA program benefits. Farmers with limited resources may be eligible for a waiver of the fee for CAT coverage. Any crop insurance agent can assist producers in determining if they are eligible for a fee waiver.

CAT payment rate is 55 percent of the Market Price when the yield falls below 50 percent of the guarantee. There is no replant or prevented planting clause included in CAT coverage. Only basic units apply under CAT coverage. The following is an example of CAT coverage comparison for apples.

CAT APPLE COVERAGE COMPARISON								
Insurance Coverage Level	APH Yields (Boxes/Acre)							
	1200		1000		950		870	
	– Insurance Coverage Guarantees Per Acre – Using a \$4.90 Per Box Established Price for Apples							
(% Coverage/Price level) 50 / 55	<u>Boxes</u> 600 \$1617.00	<u>\$</u>	<u>Boxes</u> 500 \$1347.50	<u>\$</u>	<u>Boxes</u> 475 \$1280.13	<u>\$</u>	<u>Boxes</u> 435 \$1172.33	<u>\$</u>

SPECIFIC Pacific Northwest INSURED FRUIT CROP INFORMATION

Apple Insurance

Crop Insured: The crop insured will be all varieties of APPLE adapted to the area, located on insurable acreage, and for which premium rates are provided by an actuarial table.

Acreage Requirement: The Acreage must have produced a minimum of 10 bins (250 boxes) per acre (Idaho, Oregon and Washington) to be insurable. Apples interplanted with another perennial crop are insurable, unless the insurance provider inspects the acreage and determines it does not meet the insurability requirements contained in the policy.

Insurance Coverage Begins: November 21 of each crop year, except for the year of application. If the application is received after November 11 but prior to November 21, insurance will attach on the 10th day after the properly completed application is received in the insurance provider's local office unless the insurance provider inspects the acreage during the ten-day period and determines that it does not meet the insurability requirements. The insured must provide any information the insurance provider may require for the crop to determine the condition of the orchard.

End of Insurance: The calendar date for the End of Insurance period for each crop year is November 5.

Cranberry Insurance

Crop Insured: The **Cranberry** crop insured will be all the cranberries in the county for which a premium rate is provided by the actuarial documents in which you have a share; that are grown for harvest as cranberries; that are grown in a bog that, if inspected, is considered acceptable; and that are grown on vines that have completed four growing seasons after the vines were set out, unless otherwise provided by the actuarial documents or by written agreement.

Insurance Coverage Begins: November 21 of each crop year, except for the year of application. If the application is received after November 11, but prior to November 21, insurance will attach on the 10th day after the properly completed application is received by the insurance provider, unless the acreage is inspected and the acreage during the ten-day period is determined it does not meet insurability requirements. The insured must provide any information required for the crop or to determine the condition of the bog.

Grape Insurance

Crop Insured: The crop insured will be all insurable varieties of grapes in which a producer has a share and are grown for wine, juice, raisins, or canning and for which a premium rate is provided by the actuarial table.

Acreage Requirement: The grapes must be grown in a vineyard that, if inspected, is considered acceptable by the insurance provider; has reached at least fourth leaf; and has produced an average of two (2) tons of grapes per acre during at least one of the three crop years immediately preceding the insured crop year (unless it is inspected and insurance is then allowed on such acreage). Grapes inter-planted with another perennial crop are insurable unless the insurance provider inspects the acreage and determines it does not meet the requirements contained in the policy.

Year-round Coverage: Available in Idaho, Oregon and Washington states. For each subsequent crop year the policy remains continuously in force, coverage begins on the day immediately following the end of the insurance period for the prior crop year. Policy cancellation that results solely from transferring to a different insurance provider for a subsequent crop year will not be considered a

break in continuous coverage.

Pear Insurance

Crop Insured: The crop insured will be all the **pears** adapted to the area in which you have a share, and a premium rate is provided by an actuarial documents.

Acreage Requirement: The acreage must have produced an average of at least five (5) tons of pears per acre in at least one of the four previous crop years (unless the Special Provisions or a written agreement established a lower production level) and are grown in an orchard that, if inspected, is considered acceptable by the insurance provider.

Insurance Coverage Begins: Insurance attaches for each crop year on November 21, except for the year of application if the application is received after November 11, but prior to November 21. Insurance will attach on the 10th day after a properly completed application is submitted, unless the insurance provider inspects the acreage prior to the end of the ten-day period and determine that it does not meet insurability requirements. The insured must provide any information required for the crop or to determine the condition of the orchard.

End of Insurance: The calendar date for the End of Insurance period is September 15 for Bartlett (green and red) and Star Crimson (Crimson Red) varietal groups; or October 15 for all other varietal groups.

ENDORSEMENTS-POLICY OPTIONS

(Not all options are available in all areas.)

Apple Options For Quality Adjustment *(Except for insureds who elect the CAT Endorsement.):*

An insured with an MPCCI apple policy in effect may elect to obtain additional coverage on Apples through the use of available options (where premium rates for the endorsements are established). These options apply for all acreage of the crop covered by the policy unless designated differently on the form. The options are continuous and must be elected on the application (new insureds) or contract change form (carryover insureds) and submitted on or before the sales closing date for the initial crop year for which the insured wants the endorsements to be effective. The continuous option may be canceled in accordance with the cancellation provisions of the policy.

Apple Fresh Fruit Option B: The Option is designed for apple insureds who desire specific coverage for quality of production. Quality standards and rates for Option B will apply to all Apples intended for fresh market distribution. If Option B is elected, the option must be selected on the application for new insureds. Carryover insureds shall elect the option on a new application or RMA approved policy change form submitted on or before the sales closing date for the crop year the insured wishes the option to be in effect.

The option provides an adjustment for the harvested apple production to be counted which, due to hail damage, does not grade 80 percent U.S. Fancy or Better. Harvested apple production that is damaged will adjusted according to policy provisions. Apples knocked to the ground by wind or frozen to the extent they can be harvested but not marketed as U.S. Fancy grade apples will be considered 100

percent cull production. Thirty percent of the cull production will be considered production to count, unless otherwise specified in the crop provisions. Any appraisal the insurance carrier makes on the insured acreage will be considered production to count, unless such appraised production is knocked to the ground by wind, hail, or frozen on the tree to the extent harvest is not practical.

All insurable acres of Apples in which the insured has a share in the county must be insured regardless of intended use. NOTE: Since terms of Fresh Fruit Option B provide for coverage against damage caused by hail, an apple insured cannot elect both the Fresh Fruit Option and the Hail and Fire Exclusion Option.

Apple Sunburn Option: The Sunburn Option is designed for apple insureds who have chosen Fresh Fruit Option B and who desire specific coverage against excess sun. Quality option adjustment is for the harvested apple production that, due to excessive sun or in conjunction with hail damage, does not grade 80 percent U.S. Fancy or Better, in accordance with applicable USDA Standards. Both quality options provide three choices for valuing appraised cull production. Either thirty, fifteen or zero percent of culls will be designated as production to count for indemnity determinations. Separate premium rates are based on rate class options contained in the actuarial tables. NOTE: The Sunburn Option is available only in Washington, Oregon and Idaho.

Apples–New Crop Provisions (01-054) - Effective for the 2001 Crop Year

Apple Option C: The apple crop provisions have been enhanced to provide optional units for producers having planted newer varieties of apples. Apple varietal groups are apples with similar characteristics and are grouped for insurance purposes as specified in the Special Provisions. If elected, the new Apple Option C also provides price elections specific to the varietal group. The producer must elect the same percentage relationship to the maximum prices for each varietal group. The producer must report production and acreage by varietal group. Availability of Option C requires coverage levels above the CAT level of protection. This option is applicable to all acreage within the county and may be combined with options; i.e., Fresh Fruit Option B.

New Type Codes Included in the Insurance Actuarial Document

(New Type codes and prices are applicable to all States and Counties.)

Type Code	Name	Description	Price	
			* \$ per 35 pound box	
			Idaho Oregon	Washington
113	Commercial	Previously filed as type 111 Fresh. A blend of processing and fresh apple crop value	\$4.90	\$4.90
114	Varietal Group A (Option C)	<u>Insurable varieties:</u> Fuji, Braeburn, Gala, Jonagold, Crispin, Pink Lady, Cameo, Honeycrisp, Sommerfeld, Royal Gala and Macoun.	\$5.65	\$9.10

115	Varietal Group B (Option C)	<u>Insurable varieties:</u> All other Apple varieties not specified in Group A.	\$3.60	\$3.85
-----	--------------------------------	--	--------	--------

Apples Pilot Quality Option - Effective for the 2001 Crop Year - Washington State Only, All Apple Counties

Apple Pilot Quality Option is a new concept RMA is testing to provide improves coverage for producers growing a Washington Fancy or Better Apple. The following provides an overview of the Apple Pilot Quality Option:

- The Option will provide additional quality-based coverage for varietal groups (114 and 115) shown above. Eligibility requires the producer to provide acceptable annual packout percentages for the acreage by the varietal group of apples grading Washington Fancy or Better.
- The policy defines two grades of apples for insurance purposes. The amount of liability per acre is established by varietal group and grade of apples. Washington Fancy and All-Other apples comprise the majority of the liability as these grades have respective associated pricing levels.

* Prices: Type 114 - \$11.90 Type 115 - \$4.90 All Other - \$1.30

- A historical packout factor will be computed and used to determine an amount of insurance on the acreage.
- Losses are paid when damage to the producer's production and or the current year's annual packout factor of WA Fancy apples falls more than 10 percentage points below the insured's historical packout factor for WA Fancy apples.
- **Amount of Insurance (Unit)**
Assume: Proven APH of 1,333 boxes/acre (Type 114), 20 acres, 75% coverage level; historical packout factor for Fancy apples = .8 and historical packout factor for All-Other apples = .2

The total amount of insurance under the Pilot Apple Quality Option (\$195,551) is determined as follows:

Guarantee: 1,333 boxes X 20 acres X 75 percent coverage level = 19,995 boxes

Fancy: 19,995 boxes X 0.80 packout factor = 15,996 boxes
All-Other: 19,995 boxes X 0.20 packout factor = 3,999 boxes

Fancy: 15,996 boxes X \$11.90 per box = \$190,352
All-Other: 3,999 boxes X \$ 1.30 per box = \$ 5,199

Amount of Insurance: \$190,352 + \$5,199 = \$195,551

Quality Loss Example 1 - Unit 00100 APH = 1080 X 25 acres X .75 = 20,250 Production To Count = 17,500 boxes - Hail Damage Appraisal @ 60 percent

7,000 boxes @ WA Fancy

10,500 boxes @ All-Other

Historical Packout Factor = .54

Appraisal Packout Factor = .40

Difference = 14 points or .92 Quality Reduction Factor

Value of Marketable Production

WA Fancy = 7,000 X .92 X \$4.90 = \$31,566

All-Other = [(7,000 X .08) + 10,500] X \$1.30 = \$14,378

Total Value = \$45,944

\$65,692 - \$45,944 = \$19,748 Indemnity Due

Quality Loss Example 2 - Unit 00100 APH = 1080 X 25 acres X .75 = 20,250

Production To Count = 17,500 boxes - Hail Damage Appraisal @ 40 percent

10,500 boxes @ WA Fancy

7,000 boxes @ All-Other

Historical Packout Factor = .54

Appraisal Packout Factor = .60

No Quality Reduction Factor

Value of Marketable Production

WA Fancy = 10,500 X \$4.90 = \$51,450

All-Other = 7,000 X \$1.30 = \$ 9,100

Total Value = \$60,550

\$65,692 - \$60,550 = \$5,142 Indemnity Due

Loss Example 3 - Unit 00100 APH = 1080 X 25 acres X .75 = 20,250

Production To Count = 20,250 boxes

WA Fancy = 12,150 X \$4.90 = \$59,535

All-Other = 8,100 X \$1.30 = \$10,530

Hail Damage Appraisal @ 40%

No Quality Reduction Factor

Amount of Insurance \$65,692

Value of MKT Prod. = \$70,065 (No Indemnity Due)

Note: Even with the cost of the additional benefits provided through the new Pilot Quality Option, apple coverage for 2001 production is cheaper than the best quality based coverage available for 2000 production.

Apple Quality Cost Comparison: Producer Saves 60 Percent With New Option

Example: Benton County, Washington

Assume: 1100 Box/Acre APH Average Yield
(Same as Ex. 1??)
(Coverage/Price?)

Crop Year 2000 - With Apple Fresh Fruit Option B

Producer Paid Premium = **\$350 (\$262/acre** with emergency financial assistance discount if applicable)

Crop Year 2001 - With Pilot Quality Option

Historical Packout = 70 Fancy/30 All-Other

Prices = 4.90 Fancy / 1.30 All-Other

Producer Paid Premium = **\$102**

Producers will average paying far less in premiums in 2001 for quality based coverage under this new Pilot Option. Costs and benefits will vary widely by varietal groupings, grade, regions, and individual production history. Producers should see agents immediately to discuss options.

Pear Quality Adjustment Endorsement. The endorsement provides quality adjustment provisions for pears in any State (except California) for which the actuarial table designates a premium rate for this option. If the Quality Adjustment Endorsement is elected, the Endorsement must be selected on the application for new insureds. If a carryover is insured, the endorsement may be elected on a new application or RMA approved policy change form submitted on or before the sales closing date for the crop year in which the insured wishes the Quality Adjustment Endorsement to be effective. RMA's approved Pear Crop Provisions must be in force and all terms and conditions of the policy shall be honored. If pear production is damaged by hail and if 11 percent or more of the harvested and appraised production does not grade at least U.S. No. 2 in accordance with applicable United States standards due solely to hail, the amount of production to count will be reduced as follows:

- 1 By 2 percent for each full 1 percent in excess of 10 percent when 11 percent through 60 percent of the pears fail the grade standard;
- 2 By 100 percent when more than 60 percent of the pears fail the grade standard.

The difference between the reduced production and the total production in 1 and 2 above will be considered as cull production. Pears that are knocked to the ground by wind or that are frozen and cannot be packed or marketed as fresh pears will be considered 100 percent cull production. Fifteen percent of all production considered as cull production will be considered as production to count. The endorsement may be canceled for any succeeding crop year by giving written notice on or before the cancellation date provided by the "Pear Crop Provision" preceding such crop year.

Coverage Enhancement Option (CEO) (WA Grapes and Apples): The CEO is an MPC-based

PILOT program developed to enhance current risk management products and attaches to a crop's MPCCI policy provisions. In the event of an insurable loss under the MPCCI provisions, CEO retroactively reduces the deductible, thereby increasing the amount of coverage. This results in a larger pay out for each box, barrel, bushel, ton, pound, etc., shortfall indemnified under the MPCCI policy at the same coverage level.

The primary benefit of the CEO program is how it increases the total amount of coverage while using the same premium rate that applies to the underlying coverage. It provides a big jump in coverage for a small bump in premium.

An indemnity is never due until the MPCCI coverage level deductible is met. Assume: 65% MPCCI coverage level, 85% CEO coverage level, the insured would have to sustain damage on the crop in excess of 35% (MPCCI coverage level deductible) before an indemnity would be paid.

Producers must: **1** have an MPCCI additional coverage policy in force, with a price election of 100 percent for the insured crop; **2** elect CEO in writing on or before the sales closing date for the crop insured; **3** choose an option coverage level percentage that is at least 5 percentage points higher than the MPCCI coverage level in force.

Coverage is provided on a county basis, the same as the underlying MPCCI policy. However, some application forms allow multiple counties to be insured on one form. For crop year 2001, CEO is available for Apples and Grapes in Washington State.

CEO APPLE EXAMPLE: Assume you are insured at 50% coverage level with a **100% price election** (\$4.90 per box), an Actual Production History (APH) of 800 boxes per acre and you have 100% share on 1 acre. Your MPCCI Dollar Amount of Insurance would be \$1,960. Also assume your actual yield this year was only 180 boxes, 220 less than your insurance guarantee. At \$4.90 a box, your MPCCI indemnity would be \$1,078.

\$1,078 divided by \$1,960 MPCCI dollar amount of insurance = .55000 MPCCI factor. Now assume you add CEO at the 85% coverage level. The option coverage factor is 85% CEO coverage level divided by 50%, minus 1 is 70%. $\$1,960 \times 70\% = \$1,372$ CEO dollar of insurance. $.55000 \text{ MPCCI factor} \times \$1,372 = \$755$. **Total MPCCI & CEO indemnity: \$1,078 + \$755 = \$1,833.**

CEO GRAPE EXAMPLE: Assume you are insured at 50% coverage level with a **100% price election** (\$900 per Ton), an Actual Production History (APH) of 5 tons per acre and you have a 100% share on 1 acre. Your MPCCI Dollar Amount of Insurance would be \$2,250. Also assume your actual yield this year was only 1.1 ton/acre harvested, 1.4 less than your insurance guarantee. At \$900 a ton, your MPCCI indemnity payment would be \$1,260.

\$1,260 divided by \$2,250 MCPI dollar amount of insurance = .56667 MPCI factor. Now assume you add CEO at 85% coverage level. The option coverage factor is 85% CEO coverage level divided by 50% MPCI coverage level, minus 1 is 70%. $\$2,250 \times 70\% = \$1,575$ CEO dollar of insurance. $.56667 \text{ MPCI factor} \times \$1,575 = \$893$. **Total MPCI & CEO indemnity: $\$1,275 + \$893 = \$2,168$.**

Dollar Plan of Crop Insurance Coverage

For most producers, guaranteeing revenue is the bottom line of all risk management strategies. To that end, the U.S. Department of Agriculture's Risk Management Agency (RMA) has made available various forms of revenue insurance that extend coverage to include fluctuations in price. Each type combines yield and price risk protection into a single crop insurance plan to protect crop revenue. While these broad choices are good for farm producers, the range of options available requires time and effort to become knowledgeable about each choice. The coverage has expanded from *yield only* to alternatives which complement a producer's marketing plan. A good strategy may be to develop insurance and marketing plans simultaneously.

Cherry Insurance (Dollar Plan - Category D): This insurance is available in certain pilot counties in the Pacific Northwest (please refer to Cherry fact sheet, Exhibit 4.0). This plan offers the producer the opportunity to select one of several dollar amounts of insurance per unit (per acre or per ton, depending on the crop). The available coverage elections and the rates are indicated on the actuarial table. Use the maps or supplemental listings included in the actuarial materials to determine the coverage options and premium rates. NOTE: Production reports are not required to qualify for optional units.

The **CHERRY** crop insured will be all the sweet cherries in the county for which a premium rate is provided by the actuarial table, in which: **Ĥ** the grower has a share; **Ī** are of varieties (scion and rootstock) adapted to the area; **Ď** are irrigated, unless Special Provisions allow a non-irrigated practice; **Ñ** are grown on trees that have reached the minimum age, if specified in the Special Provisions, at the time insurance attaches and produced at least the amount of cherries specified in the Special Provisions; **Ō** are grown in an orchard that, if inspected, is considered acceptable by the insurance provider.

Cherry Insurance Modified Minimum Value Option: This option will be made a part of the insurance policy if either Option 1 or Option II of the Modified Minimum Value Option is elected on the application, on or before the sales closing date for the initial crop year the cherries are insured and for which an additional premium is due. The option 'buys down' the floor price used to value production which is harvested and sold. (Not available for processing type or for insureds who elect the CAT Endorsement.)

Adjusted Gross Revenue (AGR)

The Adjusted Gross Revenue (AGR) insurance plan is a non-traditional, whole farm risk management tool. The AGR concept uses a producer's historic Schedule F tax form information as a base to provide

a level of guaranteed revenue for the insurance period. AGR:

- W provides an insurance safety net for multiple agricultural commodities in one insurance product;
- W establishes a common denominator for commodity production using cash receipts;
- W makes simple and straightforward use of income tax forms; and
- W reinforces program creditability by using Internal Revenue Service (IRS) tax forms and regulations.

The AGR product provides the producer with protection against low farm revenue due to unavoidable causes. Covered farm revenue is income from agricultural commodities reported on the Schedule F tax form, including incidental amounts of income from animals and animal products and aquaculture reared in a controlled environment. Incidental livestock income represents the crop production value fed to livestock. AD hoc disaster payments are not considered income for indemnity purposes.

Eligible producers may choose one of three AGR coverage levels:

Coverage Level	Payment Rate	# of Commodities
65 Percent	75 or 90 Percent	1 ¹ (2)
75 Percent	75 or 90 Percent	2
80 Percent	75 or 90 Percent	4

The basic coverage is 65/75 and is available to all producers. To qualify for 75/75 or 90 percent coverage, a producer must produce at least two different agricultural commodities or four different agricultural commodities for 80/75 or 90 percent coverage and each commodity must meet a minimum revenue amount.

AGR protection is calculated by multiplying the approved gross revenue times the percent coverage level and payment rate selected by the producer. The approved gross revenue is the smaller of:

- W the average of the producers prior five years of Schedule F tax information filed with the Internal Revenue Service. The average gross revenue may be adjusted for expanding operations; or
- W expected revenue for the insurance year. For example, a producer with a \$100,000 approved gross revenue who chooses 80/75 coverage would have \$60,000 protection (\$100,000 X 80 percent coverage level X 75 percent payment rate).

Producer eligibility includes:

Produces agricultural commodities primarily in pilot counties, and may include income from contiguous non-pilot counties;

- W Filed U.S. Income tax forms (Schedule F) for the same tax entity for history purposes and the insurance year (unless at least 90 percent of the farming operation was transferred to the current tax entity); filed five consecutive years of Schedule F tax forms;
- W U.S. Citizen or Resident;
- W If more than 50 percent of expected income is from insurable crops animals and animal products, Multi-Peril Crop Insurance must be obtained if available. (*Note: AGR complements other Federal crop insurance plans by coordinating the insurance protection and benefits with*

the other plans. When producers purchase both AGR and other crop insurance plans, the AGR premium will be reduced.);

- W No more than 35 percent of expected allowable income can be from animals and animal products;
- W Other restrictions may apply.

AGR Time-Line

Sales Closing Date: For producers in the approved piloted areas is: the sales closing date is January 31 (cancellation and termination date also)

Beginning of Insurance: For calendar year filings, January 1 (For the year of application, the beginning of insurance is the later of January 1 or ten days after a properly completed application is received.)

Contract Change Date: November 30

Insurance Year: Calendar or Fiscal Year (*corresponding with a producer's IRS tax year*)

Claims: Claims are settled when taxes are filed for the insurance year and other MPCI claims covering insured crops are finalized.

Pacific Northwest

AGR Availability

- Crop Year 2001:** Idaho State – Canyon, Payette and Washington counties
Oregon State – Benton, Clackamas, Columbia, Lane, Linn, Malheur, Marion, Multnomah, Polk, Washington and Yamhill counties
Washington State - Adams, Benton, Chelan, Douglas, Franklin, Grant, Kittitas, Klickitat, Okanogan, Walla Walla and Yakima

Loss Payment

Loss payments are triggered when the adjusted gross income for the insured year is less than the loss inception point. The loss inception point is calculated by multiplying the approved gross revenue by the chosen percent coverage level (65, 75 or 80). Once a loss is triggered, the insured is paid based on the payment rate selected. Loss payment for this example would trigger when the income for the insurance year is below \$80,000 (\$100,000 X 80 percent coverage level).

Loss Payment Example

Assume AGR Income:

Year	Dollar Amt.
1995	\$91,500
1996	\$119,000
1997	\$89,000
1998	\$90,000
1999	\$85,000
Total	\$474,500

Average / Approved

AGR \$94,900

Assuming an approved AGR of **\$94,900** and the insured's revenue to count is **\$21,000** for the insurance year, at the 80 percent coverage level, the insured's indemnity is calculated as follows:

Approved AGR **\$94,900** times 80 percent equals **\$75,920**. **\$75,920** minus **\$21,000** revenue to count equals **\$54,920**. **\$54,920** times 90 percent payment rate equals **\$49,428 indemnity due** the insured. (*Note: If the insured's allowable expenses fall below 70 percent of the approved expenses [\$44,436 in the example], the approved AGR will be reduced.*) In comparison, if **75 percent payment rate was selected**, the indemnity due would be \$41,190 .

AGR insurance policies are only available through private insurance agents.

Named Peril Protection Program

Private stand-alone insurance policies provide protection against specifically named perils and are paid based on a percent of damage multiplied by the liability or protection purchased less the deductible. An example of private, non-subsidized crop insurance programs may include crop-hail, freeze, fire insurance, which offers protection for one specific peril (e.g., hail), and various products which supplement federally subsidized insurance. Part of a crop damaged by a named-peril may be less than the deductible on an MPCI policy. In this instance, crop-hail insurance can fill the coverage gap. An MPCI policy protects against losses severe enough to significantly drop the whole farm's yield average. Crop-hail insurance, on the other hand, gives supplemental, acre- by-acre protection that more accurately reflects the actual cash value of damage from hail.

Growers do have the option of buying MPCI with or without hail and fire coverage. However, if an insured chooses to opt out of the hail and fire insurance component of MPCI, an equivalent dollar amount of hail and fire coverage must be purchased with a separate hail and fire policy. MPCI premiums will be reduced if hail and fire coverage is excluded. It is the producer's choice, in any given year, whether to include hail and fire protection in the MPCI policy or insure against these specific risks under a separate policy.

Growers may also want to consider supplemental replacement cost insurance. If market prices at harvest are higher than the RMA insurable price, replacement cost insurance will pay the difference on all barrels/boxes/pounds for which a regular MPCI indemnity is paid.

Non-insured Crop Assistance Program (NAP)

The Non-insured Crop Disaster Assistance Program (NAP) Protection program is available for growers producing crops used for food or fiber for which there is currently NOT a catastrophic risk protection plan of insurance available. At the option of the Secretary of Agriculture, all types or varieties of a crop or commodity may be considered to be a single eligible crop. Producers must annually provide records of crop acreage, acreage yields, and production for each eligible crop to be eligible for

Risk Management Agency - Spokane Regional Office

NAP. For crop year 2001, NAP assistance is provided to individual producers without any requirement for an area loss.

At the time of application, producers must pay a service fee for the eligible crop in an amount that is equal to the lesser of:

- \$100 per crop per county; or
- \$300 per producer per county, but not to exceed a total of \$900 per producer.

Units under NAP are the same as under the Catastrophic (CAT) risk protection program - basic units by separate ownership interests, with 100 percent cash rent included with 100 percent ownership interest. Crop payments are determined on an individual unit basis. Units with qualifying losses in excess of 50 percent of the unit's expected production or prevented planting in excess of 35 percent will be considered for payment. Payments are only paid on losses over 50 percent.

Provisions provide all service fees shall be waived in the case of applications received from limited-resource farmers (please refer to definition section in Exhibit One).

The NAP program is administered by the Farm Service Agency (FSA). Production records may be verified by an independent source, including specific crop information related to the sale of the crop (e.g., sales receipts with crop year, quantity, date of sale); or paid for measurement service from FSA for crops being disposed of or fed without production records.

Farm producers may contact their local USDA Service Centers or Farm Service Agency county offices for specific details regarding NAP.

<p><u>QUESTIONS FOR PRODUCERS TO CONSIDER:</u></p> <p>How much coverage do I need for adequate cash flow? _____</p> <p>What are the major sources of crop weather risk in my area? _____</p> <p>How much coverage can I afford? _____</p> <p>Which crop insurance product will best complement my marketing plan? _____</p> <p>What are the implications of a crop loss on my ability to meet my debt obligations?</p> <p>_____</p> <p>What are the major sources of production risk? _____</p> <p>Who is a local crop insurance agent so I can obtain specific information (types and levels of coverage, premium costs) _____</p> <p>What is the minimum cash flow I will need? _____</p> <p>What collateral will I need for operating loans? _____</p> <p>What will I need to pay off the operating loan and make term loan payments? _____</p> <p>_____</p> <p>What will be the impact of my net worth if I don't have adequate crop insurance coverage?</p> <p>_____</p>

QUESTIONS FOR PRODUCERS TO POSE TO A CROP INSURANCE AGENT:

What insurance products are available in my county, including revenue insurance? _____

How do Income Protection (IP) and Crop Revenue Coverage (CRC) compare to MPCI traditional insurance plans? _____

How does IP and CRC coverage differ? _____

Do you understand my marketing and financial plans? _____

For my farm operation, what are the best insurance plans and coverages available? _____

Should I consider crop-hail insurance? _____

Should I consider insurance supplementals? _____

What are the advantages of higher coverage levels (vs CAT)? _____

What are the sales closing dates for crops in my operations? _____

How do I prove/certify my yields? _____

What is the final planting date(s)? _____

What are my responsibilities now that I have signed an application for insurance? (e.g.: Acreage reporting dates, production reporting dates, notification of loss damage) _____

CROP INSURANCE PREMIUM CALCULATION
& LOSS INDEMNITY SCENARIO / EXAMPLES

The scenario/examples illustrated on the following pages shows the costs included when obtaining a crop insurance policy (not including possible administrative fees) and the possible indemnity received in the event of a loss. Each type of policy can be customized to best fit a producer's farming situation by selecting different price and yield coverage levels, add-on features, and insurance unit designations. Premium rates vary by crop, county and insurance plan. Please note: Premiums will vary from crop to crop and county to county. Consult your local private crop insurance agent for specific premium costs.



Multi-Peril Crop Insurance (MPCI) Premium Calculations
(Prices are for illustration purposes only)

Apple Insurance Example
Basic Policy at 100% Price at \$4.90 Price

Assume :

10 acres Basic Unit, 1100 box/per acre yield, 75% Coverage Level, @\$4.90 price, and 100% Share

Calculate Coverage: Acres x Yield x Coverage Level x Price Election

$$\begin{array}{r} 10 \text{ (Acres)} \\ \times 1,100 \text{ box/per acre (Yield)} \\ \hline 11,000 \\ \times 75\% \text{ (Coverage Level)} \\ \hline 8,250 \\ \times \$4.90 \text{ (Price Election)} \\ \hline \text{Coverage } \underline{\underline{\$40,425.00}} \end{array}$$

Calculate Adjusted Risk Premium (Coverage x Premium Rate)

$$\begin{array}{r} \$40,425.00 \text{ (Coverage)} \\ \times 0.077 \text{ (Premium Rate)} \\ \hline \text{Adj. Risk Premium } \underline{\underline{\$3,113.00}} \end{array}$$

Calculate Option Factor x .9 Basic Unit Discount

$$\text{Adj. Premium } \$2,801.00$$

Calculate Producer Premium (Adjusted Risk Premium x Producer Premium Percentage)

$$\begin{array}{r} \$2,801.00 \text{ (Adj Risk Premium)} \\ \times 0.45 \text{ (Producer Premium Percentage)} \\ \hline \text{Producer Premium } \underline{\underline{\$1,260.00}} \end{array}$$



Multi-Peril Crop Insurance (MPCI) Premium Calculations
(Prices are for illustration purposes only)

Apple Insurance Example

Basic Policy with Fresh Fruit (Option B – 15 Percent Add Back) at \$4.90 Price

Assume :

10 acres, 1100 box/per acre yield, 75% Coverage Level, @\$4.90 price, and 100% Share

Calculate Coverage: Acres x Yield x Coverage Level x Price Election

$$\begin{array}{r} 10 \text{ (Acres)} \\ \times \quad 1,100 \text{ box/per acre (Yield)} \\ \hline 11,000 \\ \times \quad 75\% \text{ (Coverage Level)} \\ \hline 8,250 \\ \times \quad \$4.90 \text{ (Price Election)} \\ \hline \text{Coverage} \quad \underline{\underline{\$40,425.00}} \end{array}$$

Calculate Adjusted Risk Premium (Coverage x Premium Rate)

$$\begin{array}{r} \$40,425.00 \text{ (Coverage)} \\ \times \quad 0.077 \text{ (Premium Rate)} \\ \hline \text{Adj. Risk Premium} \quad \underline{\underline{\$3,113.00}} \end{array}$$

Calculate Rate Factor (Rate Class Option Factor x Adjusted Risk Premium)

$$\begin{array}{r} \$3,113.00 \text{ (Adjusted Risk Premium)} \\ \times \quad 1.810 \text{ (Rate Class Option Factor)} \\ \hline \underline{\underline{\$5,634.00}} \end{array}$$

Calculate Producer Premium (Adjusted Risk Premium x Producer Premium Percentage)

$$\begin{array}{r} \$5,634.00 \text{ (Adj. Risk Premium)} \\ \times \quad 0.45 \text{ (Producer Premium Percentage)} \\ \hline \text{Producer Premium} \quad \underline{\underline{\$2,535.00}} \end{array}$$



Multi-Peril Crop Insurance (MPCI) Premium Calculations

(Prices are for illustration purposes only)

Apple Insurance Example

Basic Policy with Fresh Fruit (Option B + Sunburn) with 30 Percent Add back at \$4.90 Price

Assume :

10 acres, 1100 box/per acre yield, 75% Coverage Level, @\$4.90 price, and 100% Share

Calculate Coverage: Acres x Yield x Coverage Level x Price Election

	10 (Acres)
x	<u>1,100 box/per acre (Yield)</u>
	11,000
x	<u>75% (Coverage Level)</u>
	8,250
x	<u>\$4.90 (Price Election)</u>
Coverage	<u>\$40,425.00</u>

Calculate Adjusted Risk Premium (Coverage x Premium Rate)

	\$40,425.00 (Coverage)
x	0.077 (Premium Rate)
Adj Risk Premium	<u>\$3,113.00</u>

Calculate Rate Factor (Rate Class Option Factor x Adjusted Risk Premium)

	\$3,113.00 (Adjusted Risk Premium)
x	<u>3.200 (Rate Class Option Factor)</u>
	<u>\$9,962.00</u>

Calculate Producer Premium (Adjusted Risk Premium x Producer Premium Percentage)

	\$9,962.00 (Adj. Risk Premium)
x	<u>0.45 (Producer Premium Percentage)</u>
Producer Premium	<u>\$4,483.00</u>



Multi-Peril Crop Insurance (MPCI) Premium Calculations
(Prices are for illustration purposes only)

Apple Insurance Example
Basic Policy with Fresh Fruit Option C with 30% Add Back

Assume :

10 acres Basic Unit, 1100 box/per acre yield, 75% Coverage Level, @\$4.90 price, and 100% Share

Calculate Coverage: Acres x Yield x Coverage Level x Price Election

		10 (Acres)
	x	<u>1,100 box/per acre</u> (Yield)
		11,000
	x	<u>75%</u> (Coverage Level)
		8,250
	x	<u>\$4.90</u> (Price Election)
Coverage		<u>\$40,425.00</u>

Calculate Adjusted Risk Premium (Coverage x Premium Rate)

		\$40,425.00 (Coverage)
	x	0.077 (Premium Rate)
Adj Risk Premium		<u>\$3,113.00</u>

Calculate Rate Factor (Rate Class Option Factor x Adjusted Risk Premium)

		\$3,113.00 (Adjusted Risk Premium)
	x	<u>1.600</u> (Rate Class Option Factor)
		<u>\$4,980.00</u>

Calculate Option Factor x .9 Basic Unit Discount

Adj Premium		\$4,482.00
--------------------	--	------------

Calculate Producer Premium (Adjusted Risk Premium x Producer Premium Percentage)

		\$4,482.00 (Adj. Risk Premium)
	x	<u>0.450</u> (Producer Premium Percentage)
Producer Premium		<u>\$2,017.00</u>



Crop Loss Example - APPLES: Assume: 100% share; 75% coverage level and a 100% price election per box of \$4.90 and an average yield of 1050 boxes per acre, Actual Production History (APH).

1050	Box / Acre APH
<u>x .75</u>	Coverage Level
787.5	Box / Acre Guarantee
- 250.0	Box / Acre Production
537.5	Box / Acre Loss
<u>x \$4.90</u>	Price Election
\$2633.75	Indemnity / Acre



Crop Loss Example - APPLES: Assume: 100% share; 75% coverage level and a 100% price election per box of \$4.90 and an average yield of 800 boxes per acre, Actual Production History (APH). Spring frost results in light fruit set/reduced yield.

800	Boxes Per Acre (APH)
<u>x 75%</u>	Coverage Level
600	Boxes Per Acre Guarantee
<u>x 1</u>	Acre
600	Box Per Acre Guarantee
- 200	Box Per Acre Production
400	Box Per Acre Loss
<u>x \$ 4.90</u>	Price Election (\$) Per Box (Washington State)
\$ 1,960	Indemnity Due Policyholder (less Insurance Premium Due)

Risk Management Checklist – Crop Insurance

How much crop insurance do you need?

You can improve your risk management performance simply by conducting an annual risk management checkup. Information included in the following risk management checklist may help in providing a list of questions to respond to regarding your farm business situation.

Keep in mind also that there are many experts throughout the public and private sector who can visit with you about risk management strategies. These individuals may include elevator operators, commodities brokers, the extension service, your commodity organizations, loan officer or an insurance agent. Many are working hard to master new skills and learning how to identify new opportunities. The following questions and information provided throughout the Risk Management Education for Pacific Northwest Families training material should assist you toward asking your insurance agent and/or bank lender valuable questions -- and to act on what you learn.

Do I understand what the major risks are for my farm and the likelihood of them occurring?

List Risks:

1. _____
2. _____
3. _____
4. _____

() Do I have four or more years of production records to prove my yields?

() Have I certified my production history with my crop insurance agent?

() Have I selected an adequate percent of insurance coverage on my portion of exposure?

What coverage level do I need? _____ percent

() Have I learned about *all* of the products that are available, including revenue insurance?

() Have I considered crop-hail insurance?

() Have I considered insurance supplementals?

() Does my crop insurance agent understand my marketing and financial plans?

() Do I understand the important crop insurance deadlines and what is required of me for each? ***Crop Insurance Deadlines:***

Sales closing date - last day to apply for coverage.

Cancellation date - give notice if I don't want insurance next year.

Production reporting date - actual production history must be reported by this date.

Final planting date - if unable to plant, I must contact agent by this date.

Acreage reporting date - report acreage planted by this date.

Payment due date - interest charges are due beyond this date.

Date to file notice of crop damage - damage must be reported by this date.

End of insurance period - latest date of coverage for my insurance policy.

Debt termination date - insurance coverage for next year will be canceled if payment is not made by this date.

() Have I identified and utilized reliable sources and contacts to obtain helpful risk management information?

SUMMARY ON PRODUCTION RISK

As can be seen throughout this illustration, **managing production risk** in agriculture does not necessarily involve avoiding risk, but instead, involves finding the best available combination of risk and return given a person's capacity to withstand a wide range of outcomes. Effective risk management involves anticipating outcomes and planning a strategy in advance given the likelihood and consequences of events, not just reacting to those events after they occur. That is, the four main aspects of risk management involve:

1. Identifying potentially risk events,
2. Anticipating the likelihood of possible outcomes and their consequences,
3. Taking actions to obtain a preferred combination of risk protection and expected return, and
4. Restoring (if necessary) the farm business' capacity to implement future risk planning strategies when distress conditions have passed.

ACKNOWLEDGMENTS

Jo Lynne Seufer of USDA's Risk Management Agency - Spokane Regional Office compiled and authored the Managing Orchard and Vineyard Production Risks section of this curriculum. Dave Paul, Director of Spokane's Regional Office and many other colleagues provided valuable insights for this manuscript.

MODULE/PUBLICATION/MATERIAL REFERENCES

USDA, Introduction to Risk Management. Reference to Production Risks, USDA/Risk Management Agency, Risk Management Education (Revised December 1997)

USDA/RMA Product Development Division 2000 Crop Insurance Handbook (CIH), FCIC 18010, June 1999.

1995 Western Region Integrated Pest Management Report. Volume 4D. Sugar (Southern Oregon Research and Extension Center, Oregon State University, Medford, OR), T.L. Righetti (Department of Horticulture, Oregon State University, Corvallis, OR), R.G. Roberts (USDA-ARS Tree Fruit Laboratory, Wenatchee, WA).

Exploring Sustainability in Agriculture, Office of Sustainable Agriculture Programs Sustainable Agriculture Research and Education (SARE), Cooperative Extension Service, Sustainable Agriculture Network (SAN) serves as SARE=s outreach arm, disseminating information through electronic and print publications.(Website: <http://www.sare.org/san/htdocs/pubs/explore/>)

What is Risk? Managing Risk in Farming: Concepts, Research and Analysis, USDA/Economic Research Service, Fact Sheet, (Hardaker, Huirne, and Anderson; Patrick; Barry)

USDA/FCIC Crop Insurance Provisions: Apple Crop (2001-054); Cranberry Crop (1999-058), Cherry Crop (), Grape Crop (), Pear Crop ()

Agricultural Risk Protection Act of 2000 – Fact Sheet, June 2000, USDA/Farm Service Agency, NAP Information, Page 2.

Organic Resource Manual – Publication of the Washington State Department of Agriculture, funded by USDA’s SARE program, Spring 2000.

AG Equipment Power Magazine – October 2000, News Article: Planting Wheat May Help Apple Growers Manage Disease, by Kathryn Barry Stelljes, USDA/ARS

Western Fruit Grower Magazine (Fruits, Grapes, Nuts), 3509 Coffee Road, #D-18, Modesto, CA 95355. Articles in April 2000 issue: Play by the Rules, page 21; Irrigation, Getting it Just Right, page 32N; and Thinning, A Perennial Challenge, page 39. May 2000 issue: Living on the Cutting Edge, page 8.

AG Equipment Power, News Article, July 2000 Farm and Ranch Column, “Manage Precision AG Startup Carefully.” By Terence L. Day, Washington State University. Also released through e-mail via Washington State University June 8, 2000.

Good Fruit Grower, 105 South 18th Street, Yakima, WA 98901, August 2000 issue, Industry Profiles, page 34.

CROP INSURANCE COMPANIES/AGENTS

Crop Insurance Agents

All insurance policies are available exclusively from private insurance agents. A listing of local crop insurance agents can be obtained at all local USDA Service Centers or Farm Service Agency county offices, usually listed in telephone directories under U.S. Government, Department of Agriculture or at the website address: www.rma.usda.gov/tools/agents/.

A list of national crop insurance companies is as follows:

Farmers Alliance Insurance Company
(Blakely Crop Hail, Inc.)
100 South East 9th Street
Topeka, Kansas 66601-0918
Phone: (785) 232-0937 (1-800-336-4359)
Fax: (785) 232-0042

American Growers Insurance Company
535 West Broadway
Council Bluffs, Iowa 51503
Phone: (712) 328-3918 (1-800-999-7475)
Fax: (712) 329-5878
Mr. Richard Gibson, Executive Vice President

Producers Lloyds Insurance Company
P. O. Box 229
Amarillo, Texas 79105
Phone: (806) 372-6785 (1-800-366-2767)
Fax: (806) 372-3826

Alliance Insurance Company
(North Central Crop Ins. Co.)
P. O. Box 1088
Eau Claire, Wisconsin 54702
Phone: (715) 834-8155 (1-800-826-7090)
Fax: (715) 834-1899

Farm Bureau Insurance Co. of Nebraska
5225 South 16th Street
Lincoln, Nebraska 68501
Phone: (402) 421-4400 Fax: (402) 421-4432

Farm Bureau Mutual Insurance Company (Iowa)

**5400 University Avenue
West Des Moines, Iowa 50266
Phone: (515) 225-5516 Fax: (515) 226-6070**

***Cigna Insurance Company*
(Rain and Hail L.L.C.)
1501 50th Street, Suite 200
West Des Moines, Iowa 50266-5925
Phone: (515) 224-3070 (1-800-776-4045)
Fax: (515) 224-3089**

***Farmers Mutual Hail Insurance Company of Iowa*
2323 Grand Avenue
Des Moines, Iowa 50312
Phone: (515)282-9104 Fax: (515) 282-6303**

***Country Mutual Insurance Company*
P. O. Box 2100
Bloomington, Illinois 61702
Phone: (309) 821-3000 Fax: (309) 821-3538**

***Great American Insurance Company*
49 East Fourth Street, Suite 408
Cincinnati, Ohio 45202-3803
Phone: (513) 763-8400 (1-800-587-1553)
Fax: (513) 763-8457**

***IGF Insurance Company*
6000 Grand Avenue
Des Moines, Iowa 50312
Phone: (515) 633-1000 (1-800-274-2766)
Fax: (515) 633-1010**

***The Hartford*
1125 South 103rd St., Suite 300
Omaha, Nebraska 68124
Phone: (402) 399-8833 (1-800-295-1815)
Fax: (402) 393-2879 or (402) 399-8012**

***Fireman's Fund Insurance Company*
10895 Lowell, Suite # 300
Overland Park, Kansas 66210
Phone: (913) 338-7800 Fax: (913) 388-7888**

Rural Community Insurance Services

3501 Thurston Avenue
Anoka, Minnesota 55303
Phone: (612) 427-0290 (1-800-451-3836)
Fax: (612) 427-1591

American Agricultural Insurance Company

225 Touhy Avenue
Park Ridge, Illinois 60068-7056
Phone: (847) 685-8600 Fax: (847) 685-8661

Millers Mutual Fire Insurance Company

(Keystate Crop Insurance)
11385 North Trimble Road
Robinson, Illinois 62454
Phone: (618) 546-5409 (1-800-654-2767)
Fax: (618) 546-5650

NAU Country Insurance Companies

6701 Highway 10, NW
Ramsey, Minnesota 55303
Phone: (763) 427-3770 (1-800-942-6557)
Fax: (763) 427-6473

EXHIBIT 1.0

Crop Insurance Definitions

Acreage Report - A report required by the basic policy provisions which contains, in addition to other required information, the insured's share of all acreage of an insured crop in the county whether insurable or not insurable.

Acreage Reporting Date - The date by which insureds are required to submit acreage reports. Acreage reports must be filed not later than the acreage reporting date contained in the Special Provisions for the county for the insured crop or as provided in the basic policy provisions.

Actual Yield - The yield for a crop year calculated from the producer's records and/or claims for indemnities. The actual yield is determined by dividing total production (including harvested and appraised potential production) by planted insurable acreage for annual crops and by insurable acres for perennial crops (unless production from uninsurable acreage is commingled with production from insurable acreage).

Added Land - Land on which the insured has not actively engaged in farming for a share of the crop's production on the unit for more than two APH crop years.

Added Practice, Type, or Variety (P/T/V) - A P/T/V of the insured crop as identified on the actuarial document that requires separate APH yields, and for which the insured has NOT been actively engaged in farming for a share of the P/T/V's production on the unit for more than two APH crop years.

Additional Coverage - Plans of crop insurance providing a level of coverage equal to or greater than 65 percent (65%) of the approved yield indemnified at 100 percent (100%) of

the expected market price, or comparable coverage as established by RMA.

Administrative Fee - The annual fee that the producer must pay in addition to the premium (if any) for additional or catastrophic coverage.

Appraised Production - Production determined by the Insurance Provider for unharvested acreage, reflecting the potential production for the crop at the time of the appraisal. Appraisals made for production LOST due to insured or uninsured cause(s) of loss are not considered production for APH purposes. Only potential production remaining in the field at the time of the appraisal is used for APH purposes. (Applies to both APH appraisals or appraisals made to determine a loss.)

Approved APH Yield/Approved Yield - The amount of production per acre computed and approved by the verifier in accordance with RMA's Actual Production History Program (7 CFR part 400, subpart G) or, for crops not included under 7 CFR part 400, subpart G, the yield used to determine the guarantee in accordance with the crop provisions or the Special Provisions. The approved APH yield may contain up to ten consecutive APH crop years of actual and/or assigned yields.

Assigned Yield - A yield assigned (by the verifier) for the most recent APH crop year in the base period (by database) if carryover insureds do not file acceptable production reports by the production reporting date, as required by the crop insurance contract. The assigned yield is 75 percent of the previous year's approved APH yield. Assigned yields are used in the same manner as actual yields when calculating APH yields.

Average APH Yield - The sum of the actual, assigned and/or applicable "T" Yields divided by the number of yearly yields in the database (prior to the application of yield limitations or yield floors, if applicable).

Base Period - Ten consecutive APH crop years (five consecutive APH crop years for Apples and Peaches) immediately preceding the current policy crop year (defined in the applicable insurance policy) for which the approved APH yield is being established. Exceptions: the base period for AZ-CA Citrus, Macadamia Nuts, Sugarcane, and Texas Citrus Fruit begins two calendar years preceding the current policy crop year (a lag year). The base period for each APH database is determined by the consecutive APH CROP YEARS it contains, not by calendar years.

Barrel – 100 pounds of cranberries.

Bin – A container that contains a minimum of 875 pounds of apples or some other quantity designated in a Special Provisions of Insurance document.

Box – A container that contains 35 pounds of apples or some other quantity designated in a Special Provisions of Insurance document.

Carryover Insured - A person or entity who was insured the previous year without respect to the carrier or agent, determined on a crop policy (by county) basis. If the insured had an MPCI, Income Protection, Crop Revenue Coverage, or Revenue Assurance crop insurance and switches from one of the plans of insurance to another plan, that person or entity is considered a carryover insured.

Catastrophic Risk Protection (CAT) - The minimum level of coverage offered by RMA which meets the requirements for a person to qualify for certain other USDA program benefits. Catastrophic Risk Protection is referred to as “CAT” or “CAT coverage” in this handbook.

Continuous Production Reports - Production reports submitted by a producer for each consecutive APH crop year (within the base period), including the most recent APH crop year in the base period. Continuity is not interrupted if for any calendar year the crop was not planted, prevented from being planted by an insurable cause, or NOT produced for an insurable purpose.

Contract - The contractual agreement between the insured and the Insurance Provider consisting of the accepted application, the Basic Provisions, the Crop Provisions, the Special Provisions, other applicable endorsements or options, the Actuarial Table for the insured crop, the Catastrophic Risk Protection Endorsement (if applicable), and the applicable regulations published in 7 Code of Federal Regulations Chapter IV.

County - The political subdivision of a state listed in the actuarial table and designated on the accepted application (“county” includes acreage in a field that extends into the adjoining county or state if the county or state boundary is not readily discernable). (For quota tobacco, “county” includes any land identified by an FSA farm serial number for the county but physically located in another county.)

Crop of Economic Significance - A crop that has either contributed in the previous crop year, or is expected to contribute in the current crop year, 10 percent (10%) or more of the total expected value of the producer's share of all crops grown in the county. However, a crop will not be considered a crop of economic significance if the expected liability under the CAT Endorsement is equal to or less than the administrative fee (\$100 per crop per county).

Crop Year -APH

Crop Year. For APH purposes, the term does not include any year the crop was not planted, prevented from being planted by an insurable cause, or NOT produced for

an insurable purpose as provided in the crop's policy.

Culls – Apples that fail to meet the requirements of U.S. Cider Grade.

Database - The data used to calculate the average/approved APH yield. A minimum of four up to a maximum of ten continuous APH CROP YEARS of production data are used. The data provided must begin with the most recent APH CROP YEAR. Years containing assigned yields do not break continuity of production data and are considered APH CROP YEARS.

Days - Calendar days.

Direct Marketing – Sale of the insured crop directly to consumers without the intervention of an intermediary such as a wholesaler, retailer, packer, processor, shipper, buyer or broker.

Enterprise Unit - All insurable acreage of the insured crop in the county in which the producer has a share on the date coverage begins for the crop year (for premium computation purposes, the enterprise unit discount, if shown on the FCI-35, is in addition to the basic unit discount). An enterprise unit must consist of:

- (1) Two or more basic units of the same insured crop that are located in two or more separate sections, section equivalents, or FSA FSN's; or
- (2) Two or more optional units of the same insured crop established by separate sections, section equivalents, or FSA FSN's.

Established Price - The price per unit of production issued by RMA by each crop's filing date.

Excessive Sun – Exposure of unharvested apples to direct or indirect sunlight that causes apples to grade less than U.S. Fancy due to sunburn.

Expected Market Price - The price per unit of production (or other basis as determined by FCIC) anticipated during the period the insured crop normally is marketed by producers. This price will be set and announced by RMA not less than 15 days prior to the sales closing date for the crop. Applicable for the following crops: Barley, Corn, Grain Sorghum, Hybrid Corn Seed, Hybrid Sorghum Seed, Malting Barley, Oats, Rye, Soybeans, and Wheat.

FCIC - The Federal Crop Insurance Corporation, a wholly owned Government Corporation administered by the Risk Management Agency within USDA.

Final Planting Date - The date contained in the special provisions for the insured crop by which the crop must initially be planted in order to be insured for the full production guarantee or amount of insurance per acre.

FSA - The Farm Service Agency, an agency of the United States Department of Agriculture, or a successor agency.

FSA Farm Serial Number (FSN) - The number assigned to the farm by the FSA county committee.

Good Farming Practices - The cultural practices generally in use in the county for the crop to make normal progress toward maturity and produce at least the yield used to determine the production guarantee or amount of insurance, and are those recognized by the Cooperative State Research, Education, and Extension Service as compatible with agronomic and weather conditions in the county.

Gross Production - Net delivered production of the commodity (by removing truck weight and other weights which are considered tare from the gross scale weight) prior to deductions made for dockage, test weight, moisture content, poor quality, foreign material, etc. For APH purposes, harvested or appraised gross production, documented in the unit of measure indicated by the crop's policy, is acceptable. However, when acceptable records that indicate dockage, low test weight, high moisture content, poor quality, foreign material, etc., are available at the time production reports are filed, gross production **MUST** be adjusted for APH purposes to reflect the same quality of production as provided in the crop's policy for loss payment purposes.

Insurance Provider - A company reinsured by FCIC providing crop insurance coverage to producers participating in any Federal crop insurance program administered under the Federal Crop Insurance Reform Act of 1994.

Insured - The named person/entity as shown on the application accepted by the Insurance Provider. This term does not extend to any other person having a share or interest in the crop (for example, a partnership, landlord, or any other person) unless specifically indicated on the accepted application

Insured Crop - The crop defined under the Basic Provisions and the applicable Crop Provisions as shown on the application accepted by the Insurance Provider.

Intended Crop - A crop stated on the application submitted on or before the crop's sales closing date which the insured intended to plant the crop year for which application is made. ("Intended crop" is used in conjunction with substitute crop determinations.)

Irrigated Practice - A method of producing a crop by which water is artificially applied during the growing season by appropriate systems and at the proper times, with the intention of providing the quantity of water needed to produce at least the yield used to

establish the irrigated production guarantee or amount of insurance on the irrigated acreage planted to the insured crop.

Late Planted - Acreage initially planted to the insured crop during the late planting period.

Late Planting Period - The period that begins the day after the final planting date for the insured crop and ends 25 days after the final planting date, unless otherwise specified in the Special Provisions. For acreage planted during the late planting period, coverage is reduced in accordance with the crop's policy provisions.

Limited Resource Farmer - A producer or operator of a farm with an annual gross income of \$20,000 or less derived from all sources of revenue, including income from a spouse or other members of the household, for each of the prior two years. Notwithstanding the previous sentence, a producer on a farm or farms of less than 25 acres (aggregated for all crops), where a majority of the producer's gross income is derived from such farm or farms but the producer's gross income from farming operations does not exceed \$20,000, will be considered a limited resource farmer. (For example, a producer farming 20 acres with a total gross income of \$39,000, of which \$20,000 is farm income and \$19,000 is off-farm income, is a limited resource farmer.)

Linkage Requirement - The legal requirement that a producer must obtain at least CAT coverage for any crop of economic significance as a condition of receiving benefits for such crop from certain other USDA programs, unless the producer executes a waiver of any eligibility for emergency crop loss assistance in connection with the crop.

New Insured - A person/entity who was not insured the previous crop year without respect to the carrier (FSA or Insurance Company) or agent. If the insured had an MPCI, Income Protection, Crop Revenue Coverage, or Revenue Assurance crop insurance policy the previous crop year on the same crop/county, that person is not a new insured.

New Producer - (CATEGORY B CROPS ONLY) A person who has not been actively engaged in farming for a share of the production of the insured crop (producing the crop) in the county for more than two APH crop years. Formation or dissolution of an entity which includes individuals with more than two APH crop years of production history during the base period does not qualify the new entity as a new producer for APH yield determination purposes.

Non-Contiguous - Any two or more tracts of land whose boundaries do not touch at any point, except that land separated only by a public or private right-of-way, waterway, or an irrigation canal will be considered as contiguous.

Person/Entity - An individual, partnership, association, corporation, estate, trust, or other legal entity, and wherever applicable, a state or a political subdivision or agency of a state. "Person" does not include the United States Government or any agency thereof.

Planted Acreage - Land in which seed, plants, or trees have been placed as appropriate for the insured crop and planting method, at the correct depth, into a seedbed that has been properly prepared for the planting method and production practice.

Policy - (also see "Contract") The provisions for insuring a specific crop.

Practical to Replant - The Insurance Provider's determination, after loss or damage to the insured crop, based on all factors, including, but not limited to, moisture availability, condition of the field, time to crop maturity, and marketing window, that replanting the insured crop will allow the crop to attain maturity prior to the calendar date for the end of the insurance period. It will not be considered practical to replant after the end of the late planting period, or the final planting date if no late planting period is applicable, unless replanting is generally occurring in the area. In general, unavailability of seed or plants will not be considered a valid reason for failure to replant.

Preliminary Yield - The APH yield calculated by the agent prior to approval by the verifier. Preliminary yields are used to provide coverage estimates and premium quotations and are calculated using the same procedure as approved APH yields.

Prevented Planting - Failure to plant the insured crop with proper equipment by the final planting date designated in the Special Provisions for the insured crop in the county. The insured may also be eligible for a prevented planting payment if the insured failed to plant the insured crop with the proper equipment within the late planting period. The insured must have been prevented from planting the insured crop due to an insured cause of loss that is general in the surrounding area and that prevents other producers from planting acreage with similar characteristics.

Prior APH Yield - The approved APH yield [item 21 of the FCI-19-A] from the previous year's APH form.

Production Guarantee (Per Acre) - The number of pounds, bushels, tons, cartons, or other applicable units of measure determined by multiplying the approved yield/approved APH yield per acre by the coverage level percentage elected.

Production Report - A written record showing the insured crop's planted acreage and annual production used to determine the insured's actual yields for insurance purposes. Production reports may be APH forms or documents containing the same information

required to complete APH forms. The insured must certify acreage and production for each unit of the crop for at least the most recent APH crop year in the base period. To be acceptable, production reports must meet the requirements as outlined in this handbook and be signed, dated, and submitted by the insured on or before the production reporting date.

Production Reporting Date (PRD) - The latest date production reports will be accepted for inclusion in the database used to calculate approved APH yields for the current crop year. The PRD is the earlier of the acreage reporting date or 45 calendar days after the earliest cancellation date for the crop for the current crop year unless otherwise stated in the Special Provisions.

NOTE: For new insureds, if a crop has both a spring and fall sales closing date, and application for insurance is made after the earlier sales closing date, the PRD is the earlier of the acreage reporting date or 45 calendar days after the spring sales closing date. Insurance does not attach to the acreage planted to the type with the earlier sales closing date if application is made after the earlier sales closing date.

Replanting - Performing the cultural practices necessary to prepare the land to replace the seed or plants of the damaged or destroyed insured crop and then replacing the seed or plants of the same crop in the insured acreage with the expectation of producing at least the yield used to determine the production guarantee.

RMA Regional Office (RMA RO) - The RMA Regional Office for a designated area (states).

RMA RO Determined Yields - The approved APH yield determined by the RMA RO for insureds who do not provide at least four years of acceptable production reports when a "T" Yield Table is not published; or for other cases referred to the RO for yield determinations.

Russetting – A brownish roughened area on the surface of the apple.

Secretary - The Secretary of the United States Department of Agriculture.

Share - The insured's percentage of interest in the insured crop as an owner, operator, sharecropper, or tenant at the time insurance attaches. Unless the accepted application clearly indicates that insurance is requested for a partnership or joint venture, or is intended to cover the landlord's or tenant's share of the crop, insurance will cover only the share of the crop owned by the person/entity completing the application. The share will not extend to any other person having an interest in the crop except as may otherwise be specifically allowed in the Basic Policy provisions.

Cash Lease (100 Percent Share). Acreage rented for cash is considered a cash

lease. A lease containing provisions for either a minimum payment or a crop share will be considered a cash lease.

Crop Share. Acreage rented for a percentage of the crop will be considered a crop share lease. A lease containing provisions for both a minimum payment (such as a specified amount of cash, bushels, pounds, etc.) and a crop share will be considered a crop share lease.

Similar Crop - Another crop produced by the grower and classified under a broad grouping of crops such as: row crops, tree crops, vine crops, bush crops, etc. Example: Annual crops such as wheat, corn, soybeans, etc., are considered to be similar crops, apples; peaches, pears, etc., would also be considered similar crops.

Sunburn – As defined in the United States Standards for Grades of Apples.

Temporary Yield - A yield used (by unit) when an insured is unable to finish harvest (due to an insurable cause), or records are unavailable from the processor, marketing outlets, etc., by the production reporting date.

Timely Planted - Planted on or before the final planting date designated in the Special Provisions for the insured crop in the county.

Transitional Yield ("T" Yield) - An estimated yield provided in the Actuarial Table which is used in calculating average/approved APH yields when less than four years of actual, temporary, and/or assigned yields are available on a crop by county basis. Note: Any actuarial document references to Determined Yields ("D" Yields) are considered "T" Yields for APH purposes.

Transitional Yield Locator Document ("T" Yield Map) - A county map indicating area classifications and corresponding "T" Yields. "T" Area classifications are used in conjunction with the "T" Yield table to determine "T" Yields.

Unit - The insurable acreage of the insured CROP in the COUNTY taken into consideration when determining the approved APH yield, production guarantee/amount of insurance, and the amount of any indemnity (loss payment). Each insured crop's unit structure is defined in the policy and/or respective endorsement.

USDA - The United States Department of Agriculture.

Variable "T" Yields

For Category B Crops - Sixty-five, 80, 90, or 100 percent of the applicable "T" Yield based on the number of years of actual, assigned, or temporary yields provided on a crop (policy) and county by the insured. For Category C Crops - Sixty-five, 80, 90, or 100 percent of the applicable "T" Yield based

on the number of years of actual, assigned, or temporary yields provided for each database by the insured.

Varietal Group – Apple and/or grape varieties with similar characteristics that are grouped for insurance purposes as specified in the Special Provisions of Insurance document.

Verifier - An Insurance Provider authorized by RMA to calculate approved APH yields.

Waiver (Linkage) - An FSA document that, when signed by a producer, relinquishes that producer's eligibility for emergency crop loss assistance and satisfies linkage requirements.

Waiver (Administrative Fees) - A document that, when signed by limited resource farmers, exempts them from paying the administrative fee.

Whole Farm Unit - All insurable acreage of the insured crops in the county in which the producer has a share on the date coverage begins for each crop for the crop year.

Written Agreement - A document that alters designated terms of a limited or additional coverage policy and that is authorized under the basic provisions, the crop provisions, or the Special Provisions for the insured crop.

Yield Limitations/Yield Floor - Adjustments made to average APH yields, when applicable, which result in the approved APH yield.

Zero Acreage Report - An acreage report filed by an insured that certifies that the insured does not have a share in the crop for that crop year.