Managing Risk

BUILDING A SAFETY NET WITH CROP INSURANCE

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Why consider crop insurance?

Crop insurance products can help you manage risk by supporting income in bad times. When perils beyond your control significantly reduce your revenues, crop insurance can provide indemnities that support your revenue. In this way, crop insurance serves as a safety net. Does this safety net come for free? No, building that net costs money. That means you need to ask yourself:

- Does my operation need a safety net?
- How much am I willing to pay for a safety net?
- If I want a safety net, what risks should it cover and how high should it be?

The good news is that the government provides substantial subsidies for many crop insurance products. This reduces the cost that you have to pay to build a safety net to cover crop losses or revenue losses.

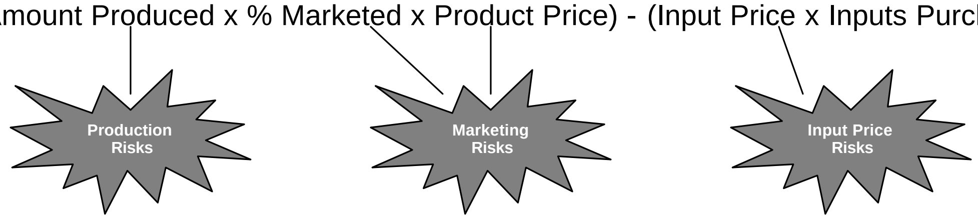
What is a safety net?

Crop production is subject to many risks. An examination of the basic profit equation is useful in identifying these risks. Figure 1 illustrates three important types of risk: production risks, marketing risks, and input price risks. Profits can be reduced by production shortfalls, market fluctuations, and increases in operating costs.

Figure 1. The Profit Equation

Profits = Total Revenue - Total Cost

= (Amount Produced x % Marketed x Product Price) - (Input Price x Inputs Purchased)



Various crop insurance products provide protection against risks related to the revenue component of profit. While most products protect against production risks, some provide protection against both marketing and production risks (e.g. AGR). These products provide a safety net by paying you when yields or revenues fall below a critical threshold.

Do you need a safety net?

Not all farm businesses need a crop insurance safety net. The process of determining your need for a safety net begins by thinking about how your operation would be impacted by a bad year. There are three basic questions you should answer:

1. **What are my cash flow needs?** This should include any debt servicing needs and personal living needs. The more substantial your cash flow needs, the more important that you have a safety net in place.
2. **How would I handle a revenue shortfall?** Savings and credit reserves are components of your safety net. Are your current savings and unused credit reserves large enough to service your debt or family living expenses? Are you willing to use these savings or credit reserves to meet your cash flow needs? Many things can influence your willingness to rely on these assets. Perhaps you are at a stage of life, near retirement, when using these assets is less attractive to you. Plans for expansion may be put on hold if they are used. In severe situations, family living budgets may need to be trimmed.

   The greater your savings and credit reserves, and the more willing you are to use them, the less you need to augment your safety net with crop insurance. However, because the government is paying so much of the premium, it is sometimes still a good decision to purchase crop insurance, at least at the CAT level, even if you *can* weather a financial storm.
3. **How likely is a revenue shortfall?** This question is a difficult one to answer because it differs for every operation and for every crop (for example, some crops are more likely to incur freeze damage than others). The more likely it is that a shortfall will occur, the greater the need for a safety net.

   A good first step in assessing the likelihood of a revenue shortfall is to examine historical yields and prices. For example, graph revenue per acre for the different crops you grew and for the entire farm operation for the last ten years. What is the range that you have experienced? How often have you experienced values toward the lower end of your range? You should also perform a sensitivity analysis, which examines the impact of various yields and prices on your cash flow. Your insurance agent can review your farm's data and help you determine the likelihood of a shortfall, and how best to deal with such a shortfall.

Using Crop Insurance to Augment Your Safety Net

If you decide that you need to augment your safety net with crop insurance, the next question is: how much additional cost you are willing to take on to reduce your risks? Stated differently, how high of a safety net are you willing to purchase for your operation? It's important to understand that the more risk that an insurance product protects against, the more it is likely to cost.

It is also very important to choose the right kind of coverage for your situation. The four major types of insurance products available to horticultural producers are compared in the accompanying chart. These products protect against yield risk, or against the combination of yield and price (revenue) risk. Three of them offer basic yield protection: Catastrophic Coverage (CAT); Non-Insured Crop Disaster Assistance (NAP); and Actual Production History (APH) coverage. These three products protect against major production losses due to weather, wildlife damage, fire, or other catastrophe. Because they only guard against yield risk, they are generally the least costly crop insurance products.

- **Catastrophic Coverage (CAT).** CAT offers very basic protection for a list of specific major crops, including annual and perennial crops. CAT coverage is fully subsidized, so the grower only pays a $100 per crop administrative fee. However, CAT only pays for yield losses below 50 percent of your proven yield, and then it only pays at 55% of the price established for that crop. The established price may be higher or lower than your actual harvest price.
- **Non-Insured Crop Disaster Assistance (NAP).** NAP offers protection very similar to CAT, at a low cost. NAP is available for most crops that are not eligible for CAT, and is administered through the USDA's Farm Service Agency (FSA).
- **Actual Production History Coverage (APH).** APH provides greater protection than CAT or NAP, and consequently it costs more. APH gives you the choice of "electing" the yield loss level at which payments will be triggered, between 50-75% of average proven yield. It generally pays at 100% of the established price for your crop. In addition, APH coverage can be arranged on a field-by-field, or area-by-area basis. Since yield variability among your individual production areas is likely to be higher than the yield variability over your entire farm, this means that you are more likely to receive indemnity payments in any given year. In addition, special quality considerations can sometimes be written into the policy, for example for extra premium apples. However, keep in mind that the higher the level of protection you elect, the more it's going to cost. APH coverage is subsidized so that growers pay only about 40% of the actuarial costs.
- **Adjusted Gross Revenue Insurance (AGR).** AGR is the only crop insurance product available to horticultural producers that protects against both yield and price risks. Because of this broader protection, AGR is more costly than CAT, NAP or APH coverage. However, AGR is also highly subsidized, meaning that NY growers pay only about 25% of the

Crop insurance products for horticultural producers

	Multiple Peril Crop Insurance (MPCI)		Non-Insured Crop Disaster Assistance (NAP)	Adjusted Gross Revenue (AGR)
	Catastrophic Coverage (CAT)	Actual Production History (APH)		
Brief descrip-tion	Basic disaster protection for eligible crops. Replaces ad hoc disaster assistance.	More flexible protection, at the level of coverage elected by grower.	Basic disaster protection for otherwise non-insurable crops.	Whole farm revenue insurance for multiple crops. Pilot program available only in 16 NY counties.
Eligible horti-cultural crops	Tomatoes (fresh & processed), peas, potatoes, onions, processing sweet corn, processing beans, etc; apples, blueberries, grapes, peaches, pears, etc; some container and field grown nursery crops	Same as CAT.	Crops grown commercially for food or fiber, for which MPCI is not available. Includes forage, floriculture, mushrooms, honey, maple sap, gin-seng, aquaculture, Christmas trees, ornamental nursery, and turfgrass sod.	Covers multiple crops, including those not eligible for MPCI. If >50% expected income is from MPCI-insurable crops, MPCI must be purchased for those crops, in which case AGR & MPCI benefits and premiums are coordinated.
Protects against…	Low yields	Low yields	Low yields	Low revenues due to low yields and/or market fluctuations
Payments are made when…	Actual yield is less than 50% of APH yield, or when you are prevented from planting.	Actual yield is less than the grower's elected % of APH yield (from 50-85% APH)	Actual yield is less than 50% of APH yield, or when you are prevented from planting >35% of intended acreage.	Actual revenues are less than the grower's elected % of 5-yr average revenues (from 65-80%.)
Payment price	55% of the established "MCPI price" for that crop	Most growers choose 100% of MCPI price.	55% of the "average market price" for each crop, determined by FSA committee	Grower elects payments at 75%-90% of lost revenues, with some restrictions.

Cornell Horticultural Business Management and Marketing Program - Risk Management actuarial costs. AGR is especially well suited for small and/or diversified growers of fruit and vegetables who grow several crops and whose direct sales are mostly from crops grown on the insured farm rather than purchased for resale. Growers who elect AGR must also take MPCI if over 50 per cent of their expected income is from insurable crops. However premiums and benefits are coordinated so that you will not pay double premiums, nor can you collect double benefits. Using AGR in combination with CAT coverage works well in many situations. Unfortunately, AGR is only available in 16 pilot counties in New York State.

We suggest that, at a minimum, growers should purchase CAT coverage for insurable crops, and NAP for crops that cannot be insured. This is because Congress sometimes ties disaster payments to your participation in some form of risk management program.

Looking ahead to 2003

Deadlines for signing up for the various crop insurance programs for 2003 are not yet published. As a rule, deadlines for insuring perennial crops are in the fall, annual crops in the spring. As deadlines are published we will post them on the Cornell Horticultural Business Management and Marketing web site. In the meantime, it makes sense to meet with your local insurance agent to determine the type and amount of insurance that best suits your needs.

For more information on crop insurance, **click here.**

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