

Crop Insurance in Missouri

Crop insurance offers agricultural producers a way to manage risk associated with commodity production and prices. Crop insurance can decrease the production risk associated with adverse weather conditions, fire and pests and the price risk associated with fluctuating commodity markets.

Crop insurance basics

The Risk Management Agency (RMA) of the U.S. Department of Agriculture (USDA) administers the Federal Crop Insurance Corporation and other programs to help support U.S. agriculture. Policies are available through the RMA for more than 100 different crops. RMA develops and approves the premium rates, administers subsidies, approves and supports products and reinsures the private companies that sell and service all federal crop insurance products. In 2012, RMA reported sales of more than 2.1 million policies covering 281 million acres.

Crop insurance plans

Table 1 shows six general types of crop insurance available to corn and soybean farmers:

- Yield protection (YP)
- Revenue protection (RP)
- Revenue protection with harvest price exclusion (RP-HPE)
- Group risk plan (GRP)
- Group risk income protection (GRIP)
- Group risk income protection with harvest revenue option (GRIP-HRO)

Insurance policies are available for other major crops in Missouri such as wheat, rice, grain sorghum and oats; contact your local crop insurance agent for further information. Following is a brief description of the crop insurance products available for corn and soybeans in Missouri; further information is available online from the RMA (<http://www2.rma.usda.gov/policies>).

Yield protection

Yield protection (YP) plans protect against a production loss. The farmer selects the amount of average yield he or she wishes to insure, from 50 percent to 85 percent. The

farmer also selects the portion of the projected price he or she wants to insure, between 55 percent and 100 percent of the crop price established by the average new crop future prices during the month of February (December contract for corn and November contract for soybeans). If the harvest is less than the yield insured, the farmer is paid an indemnity based on the difference. Indemnities are calculated by multiplying this yield difference by the insured percentage of the established price selected when crop insurance was purchased.

Yield protection example

A cornfield has an average yield of 150 bushels per acre. A YP policy is purchased with an 80% yield guarantee and elects to cover 90% of the \$6.00 new crop futures price. Actual yield in the fall was 80 bushels per acre.

- Guaranteed yield = 120 bu/ac (150 bu/ac × 80%)
- Guaranteed price = \$5.40 per bu (\$6.00/bu × 90%)
- Indemnity = \$216/ac (120 - 80 bu/ac × \$5.40/bu)

Revenue protection

Revenue protection (RP) plans protect against revenue loss due to yield reductions, price fluctuations or both. The farmer selects the amount of average yield to insure, between 50 percent and 85 percent. The coverage price is based on the greater of the new crop projected price (during February) or the harvest price (during October). If the farmer's actual revenue (based on actual yield times harvest price) is less than the insurance policy revenue guarantee, then an indemnity is paid for the difference.

Revenue protection example

A soybean field has an average yield of 40 bushels per acre. An RP policy is purchased with an 80% revenue guarantee. Projected new crop price in February was \$14 per bushel. Actual yield in the fall was 40 bushels per acre, and harvest price was \$10 per bushel.

- Guaranteed revenue = \$448/ac (40 bu/ac × 80% × \$14/bu)
- Actual revenue = \$400/ac (40 bu × \$10)
- Indemnity = \$48/ac (\$448 - \$400)

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Table 1. Summary of crop insurance plans for corn and soybeans.

Characteristic	Yield protection	Revenue protection	Revenue protection with harvest price exclusion	Group risk plan	Group risk income protection	Group risk income protection with harvest revenue option
Insures against	Individual production risk	Individual revenue risk	Individual revenue risk	County level production risk	County level revenue risk	County level revenue risk
Yield coverage	50% to 85% of actual production history yield	50% to 85% of actual production history yield	50% to 85% of actual production history yield	70% to 90% of county yield	70% to 90% of county yield	70% to 90% of county yield
Price coverage	55% to 100% of Feb. new crop futures contract price (base price)	Higher of new crop futures contract price in Feb. (base price) or Oct. (harvest price)	New crop futures contract price in Feb. (base price)	60% to 100% of the maximum coverage level	60% to 100% of the maximum coverage level	60% to 100% of the maximum coverage level (using higher of Feb. or Oct. futures price)
Results on which indemnity is based	Actual yield	Actual yield and futures prices in Oct.	Actual yield and futures prices in Oct.	County yield	County yield and futures price in Oct.	County yield and futures price in Oct.
Insurable units	Basic, optional and enterprise units	Basic, optional, enterprise and whole farm units	Basic, optional, enterprise and whole farm units	Enterprise units	Enterprise units	Enterprise units

Revenue protection with harvest price exclusion

Revenue protection policies with harvest price exclusion (RP-HPE) are essentially the same as RP policies, but farmers do not have the opportunity to improve their revenue guarantee if prices improve at harvest.

Group risk plan

Group risk plan (GRP) policies use a county index as the basis for determining a loss. When the county yield for the insured crop, as determined by the USDA National Agricultural Statistics Service (NASS), falls below the trigger yield chosen by the farmer, an indemnity is paid based on the difference between the actual yield and the trigger yield. Payments are not based on the individual farmer's loss records. Yield level coverage is available from 70 percent to 90 percent of the expected county yield. Farmers will also select a level of coverage between 60 percent and 100 percent of the maximum level. The RMA sets the maximum level of coverage at 150 percent times expected county yield times the new crop futures contract price in February (base price). GRP protection involves less paperwork and costs less than the farm-level coverage described above. However, individual crop losses may not be covered if the county yield does not suffer a similar level of loss. Farmers whose crop losses typically follow the county pattern most often select this type of insurance.

Group risk income protection (GRIP)

Group risk income protection (GRIP) policies make indemnity payments only when the average county revenue for the insured crop falls below the revenue chosen by the farmer. Yield level coverage is available from 70 percent to 90 percent of the expected county yield. Farmers will also select a level of coverage between 60 percent and 100 percent. As with GRP plans, the RMA sets the maximum

level of coverage at 150 percent times expected county yield times the new crop futures contract price in February (base price). Actual revenue for indemnity calculations uses the new crop October contract average. Under GRIP a farmer could get an indemnity even if yields do not go down, but prices do go down.

Group risk plan example

Expected county yield for soybeans was 45 bushels per acre. Farmer elects 80% yield coverage and selects 100% of the maximum protection coverage (\$600/ac). If actual county yield was 20 bushels, this would result in a 16 bushel shortfall from the 36 bushel trigger yield (45 bu/ac × 80%). The plan would pay an indemnity of \$267 per acre (16/36 × \$600).

Group risk income protection – Harvest revenue option (GRIP-HRO)

Group risk income protection policies with a harvest revenue option (GRIP-HRO) are similar to the GRIP plan, except that revenue for indemnity calculations will use the higher of the new crop February or October futures prices.

It is important to note that GRP, GRIP and GRIP-HRO policies do not provide coverage for hail, flood, prevented planting, replanting or reduced grain quality on individual farms. Also, coverage is not available in many Missouri counties where yield protection and revenue protection are available.

Minimum coverage option

An additional minimum policy option is called the catastrophic risk protection (CAT) endorsement, which covers yield losses greater than 50 percent and payments are made on 55 percent of the price established by RMA. The

government pays the premium and farmers pay only a \$300 administrative fee for each crop and county. CAT coverage is only available on yield protection insurance policies.

Unit structure

Another feature of crop insurance plans is the variety of ways in which a farm can be insured. Farms can be set up in an entire unit or broken down into multiple units, each with a separate crop insurance policy. Your choice of unit classification will affect your premium rates, and any subsequent indemnities, under the respective policy. Characteristics of the various unit classifications and the plans under which each can be used are as follows.

Basic units

Basic units are used to organize by county all land that is owned or cash rented into one insurable unit for each crop. A crop that is shared among different landlords, tenants or sharecroppers would result in separate basic units for each arrangement. Basic units can be used in YP, RP and RP-HPE crop insurance policies.

Optional units

Optional units present a way to further divide a farming operation into more units than the basic unit classification. Farms can be organized as separate insurable units based on different sections, section equivalents or USDA Farm Service Agency (FSA) farm numbers (in the absence of sections or section equivalents). Additionally, if certain farming practices such as irrigation or organic production are used, then separate units can be established for each parcel of land. Optional units can be used in YP, RP and RP-HPE crop insurance policies.

Enterprise units

Enterprise units combine all acreage of a certain crop by county into one insurable unit. For example, corn and soybean acres in one county would result in two separate enterprise units. Enterprise units can be used in YP, RP, RP-HPE, GRP, GRIP and GRIP-HRO crop insurance policies.

Whole-farm units

Whole farm units combine all acreage into one insurable unit by county whether or not multiple crops are planted. Only revenue protection plans (RP or RP-HPE) can use this unit classification.

Premiums

The cost of crop insurance policies varies by crop, location, plan, coverage level and unit classification. Crop insurance agents are the best source of information for your operation and can be located online through the USDA-RMA Crop Insurance Agent Locator (<http://www.rma.usda.gov/tools/agent.html>). Additionally, the University of Illinois has developed an online Crop Insurance Premium

Calculator (<http://www.farmdoc.illinois.edu/cropins/index.asp>) that shows general premium ranges for Missouri producers by typical county yields, coverage level and plan.

Crop insurance policies are subsidized by the federal government to make them affordable for farmers. The subsidy provided by the government helps offset a portion of the cost associated with the premium. As coverage levels increase in crop insurance policies, the percentage of government subsidy decreases as further risk reduction occurs. Insurance premiums for all U.S. crops insured in 2011 collectively approached \$12 billion, about \$7.5 billion of which was subsidized by the federal government.

History of Missouri crop insurance

Figures 1, 2 and 3 show data for the principal row crops (corn, cotton, oats, rice, grain sorghum, soybeans, wheat) in Missouri. Figure 1 shows the number of acres that have been insured under each of the major types of insurance plans in Missouri. Revenue protection is the most popular type of policy, and its use has increased dramatically over the past 10 years. Use of yield protection policies has trended downward but still represents 21 percent of planted principal row crop acres in Missouri. The GRP and GRIP products, summed together into “group plans,” represent a small number of acres.

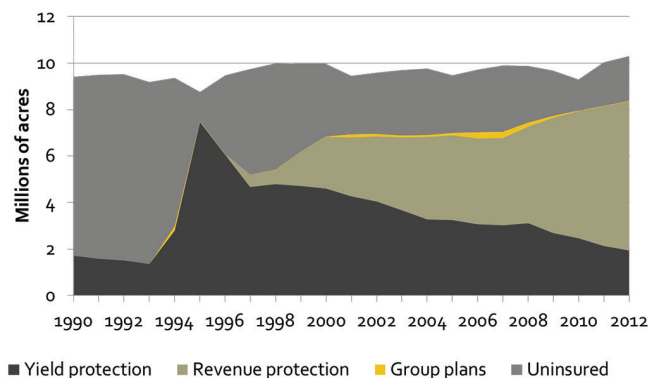


Figure 1. Missouri crop acres insured by type of insurance, 1990 to 2012.

Source:

U.S. Department of Agriculture, Risk Management Agency

Notes:

Group plans include both group risk plans and group risk income protection.

Revenue protection includes previous crop insurance policies that covered revenue such as crop revenue coverage and revenue assurance.

Yield protection includes the previous crop insurance policy called actual production history or multi-peril insurance.

The use of insurance products varies by crop. Figure 2 shows the percentage of crop acreage enrolled in the different insurance plans in 2012. Cotton, corn and soybeans are the most widely insured crops, each having over 80 percent of planted acreage insured. However, the type of insurance purchased for these crops varies. Cotton producers largely use yield protection plans. Corn, soybean and wheat producers primarily use revenue protection plans. Grain sorghum and rice producers are about evenly

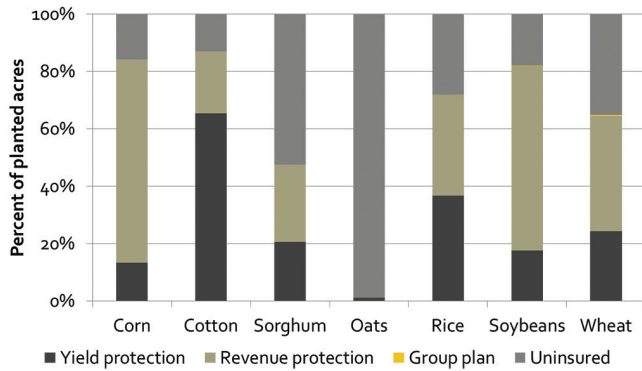


Figure 2. Percent of Missouri crop enrolled in crop insurance, 2012.

Source:

U.S. Department of Agriculture, Risk Management Agency

split between yield and revenue protection plans. Oats is the least insured primary crop in Missouri. Group plans were used only on a very limited basis in 2012 for corn, soybeans and wheat.

Crop loss can be due to a number of perils, including insects, plant diseases, tornados, wildlife, wind and fire. Over the past 10 years in Missouri, the major causes of insured crop losses have been either excess moisture and flooding or drought and heat (see Figure 3). In 2011, Missouri farmers received a total of \$448 million in indemnity payments.

Summary

Crop insurance offers producers a means to manage risks. Six general types of crop insurance are available to

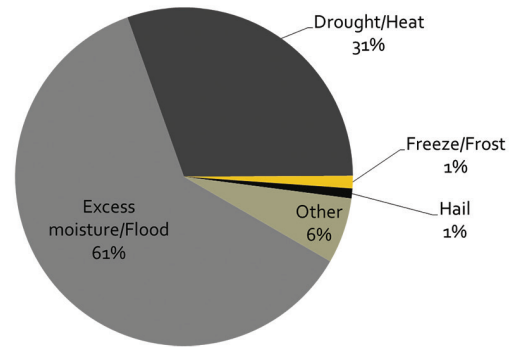


Figure 3. Source of crop loss by indemnity payments, 2000 to 2010.

Source:

U.S. Department of Agriculture, Risk Management Agency

farmers for major crops. There is no single correct amount or type of coverage; the amount of coverage necessary for each producer varies. In addition, unit classification is an important consideration in choosing a crop insurance policy. Producers must assess their current situation and make decisions based on their individual needs. Subsidies provided by the federal government help offset a portion of the cost associated with the crop insurance premiums. There is still a cost incurred by the producer that increases as coverage level increases. Contact a local crop insurance agent for more information about crop insurance policy premiums and insurance needs.

An original coauthor of this publication was **Ann Ulmer**, Agricultural Economics Extension.

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