

March 11, 2002

FEFO 02-05

2002 *iFARM* CROP INSURANCE EVALUATOR

The 2002 version of the *iFARM* Crop Insurance Evaluator is available for use on farmdoc (see . . .). The Evaluator shows risks and returns from five different crop insurance products: Actual Production History (APH), Revenue Assurance with the Base Price option (RA-BP), Crop Revenue Coverage (CRC), Group Risk Plan (GRP), and Group Risk Income Plan (GRIP) insurance.

Using the *iFARM* Insurance Evaluator

An input screen will appear when the Evaluator is selected. A user will select one county in Illinois. Then the user will select either corn or soybeans. Once these choices have been made an evaluation of the risk and returns of the crop insurance products will be shown. Evaluations are given in a series of seven tables showing estimated premiums, average payments, frequency of payments, net costs, average gross revenues, 10 percent values-at-risk, and 25 percent values-at-risk.

The “net costs” table for corn in Champaign County is shown below.

Net Cost of Insurance, per Acre, Corn					
Coverage Level	APH (\$/acre)	CRC (\$/acre)	RA-BP (\$/acre)	GRP (\$/acre)	GRIP (\$/acre)
55%	-0.84	-1.36	-0.21		
60%	-0.80	-1.25	-0.47		
65%	-0.88	-1.25	-0.82		
70%	-0.68	-0.66	-0.78	0.87	0.24
75%	-0.71	-0.28	-0.76	1.56	0.94
80%	-1.06	-0.28	-0.79	2.02	1.84
85%	-2.08	-1.21	-1.14	3.75	4.15
90%				5.52	6.68

Description:

Over many years, payments from the insurance products will offset part of their costs. This table shows estimates of the net costs of the insurance products. They equal the average payments from insurance (2nd table above) minus estimated premiums (1st table). Negative values imply that insurance costs more than it pays back on average and positive values mean that payments exceed the premiums on average.

Net costs equal the expected payment from the product minus the premium of the product. The net cost of CRC insurance at an 85 percent coverage level is -\$1.21. This means that, on average, premiums will be \$1.21 more than the payments made by the product. Obviously, payments will vary from year-to-year. Net costs reflect an average. If CRC at an 85 percent is purchased for the next ten years, the average of the net costs over the ten years will be close to -\$1.21. Some years it will be higher than this number and some years it will be lower.

A product costs must be weighed against risk reductions available from the product. The Evaluator makes use of values-at-risk to measure risk reductions. The following table shows 10 percent values-at-risk for Champaign County.

10 Percent Value-At-Risk, per Acre, Corn					
Coverage Level	APH (\$/acre)	CRC (\$/acre)	RA-BP (\$/acre)	GRP (\$/acre)	GRIP (\$/acre)
55%	235	230	235		
60%	235	236	235		
65%	236	237	236		
70%	238	243	238	238	238
75%	241	248	241	240	241
80%	244	252	246	242	244
85%	246	256	252	244	248
90%				247	251

10% Value-At-Risk Without Insurance = \$236

Description:
This is a measure of risk. A 10 percent value-at-risk means that 10 percent of the time, gross revenue will be less than those values. In other words, gross revenue will be less than the values in the table about one in ten years.

The 10 percent value-at-risk for CRC at the 85 percent coverage level is \$256. This value-at-risk is a gross revenue that includes crop revenue from sales at harvest, plus Loan Deficiency Payments, plus insurance payments, minus insurance premiums. Ten percent of the time gross revenue will be below this number. (The value-at-risk is analogous to a weather forecast: 10 percent of the time it will rain tomorrow.) Higher values-at-risk indicate risk reductions. The value-at-risk for CRC at the 85 percent coverage level is \$20 higher than the \$236 value-at-risk given no insurance. This indicates that this insurance product reduces risk.

Weighing the Risks

Some alternatives will have more risk reductions than other. However, these alternatives may also have higher net costs. CRC at the 85 percent level compared to GRIP at the 90 percent coverage level is an example of this tradeoff. CRC at 85 percent has a \$256 value-at-risk. This value-at-risk is \$5 higher than the \$251 value-at-risk associated with GRIP at the 90 percent level. This indicates that CRC at the 85 percent level reduces risk more than GRIP at the 90 percent coverage level.

However, GRIP's net costs are lower than CRCs net costs. GRIP at a 90 percent level has \$6.68 net cost. The positive net cost indicates that over time the product will pay out more indemnities than will be paid in premiums. This compares to a net cost of -\$1.21 for CRC at the 85 percent coverage level. Farmers will have to decide between these tradeoffs.

Data Used in the Evaluations

Yields and prices from 1972 through 2001 are used in the *iFARM* Crop Insurance Evaluator. Yields for this analysis were obtained from the Illinois Farm Business Farm Management (FBFM) Association. Evaluations are given for one case farm in each county. This case farm has a yield close to the average county yield and variability equal to the average variability for the county.

Because one farm is used, actual results can differ for other farms. Therefore, *iFARM* results should only be used as guidelines.

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