The Group Risk Income Protection (GRIP) plan of insurance provides protection against an unexpected decline in revenues, whether due to low yields, low prices, or some combination thereof. GRIP combines the group, or county average, yield coverage of the Group Risk Plan (GRP) with commodity exchange-based price coverage similar to the Revenue Assurance (RA) and Crop Revenue Coverage (CRC) policies.

GRIP was first offered in 1999 for corn and soybeans in the states of Illinois, Indiana, and Iowa. GRIP was enhanced with the Harvest Revenue Option (HRO) in 2004. The HRO provides upward price protection in a similar manner to RA's Harvest Price Option (HPO). In 2005, GRIP product was expanded to all counties offering GRP. GRIP was also expanded to grain sorghum for 2005, and to cotton and wheat for 2006. Beginning with 2006, the price discovery period for determining the base prices for GRIP were harmonized with the price discovery periods for RA and CRC; in previous years, GRIP had a shorter base price discovery period from RA and CRC.

Various concerns and questions have arisen with regard to GRIP. Below is a discussion of some of these issues.

### 1. Is GRIP an actuarially sound plan of insurance?

GRIP appears to be actuarially sound. As Table 1 shows, the average loss ratio for GRIP is 0.81, which is comparable to loss ratios for other revenue products such as CRC and RA. This is a favorable performance and does not indicate the presence of any significant or general problems with the actuarial soundness of GRIP. The GRIP corn loss ratio has averaged 0.98 over this period, despite a virtually unprecedented series of significant within-season price declines. Even with this unusual series of price declines, the average loss ratio for GRIP corn is only moderately higher than the loss ratios for RA and CRC.

Crop	Product	1999	2000	2001	2002	2003	2004	2005	Avg.
Corn	GRIP	1.99	0.92	0.24	0.67	0.03	1.81	1.23	0.98
	RA	0.36	0.28	0.98	1.15	0.59	0.57	0.51	0.63
	CRC	0.65	0.60	0.66	1.64	0.76	0.55	0.52	0.77
Soy- beans	GRIP	0.47	0.03	0.08	0.08	0.29	1.98	0.07	0.43
	RA	0.36	0.43	0.64	0.89	1.69	0.88	0.30	0.74
	CRC	0.79	0.86	0.53	1.17	1.36	0.67	0.39	0.82
Total	GRIP	1.58	0.67	0.19	0.51	0.10	1.88	0.72	0.81
	RA	0.36	0.32	0.91	1.08	0.91	0.69	0.42	0.67
	CRC	0.70	0.69	0.63	1.53	0.94	0.59	0.48	0.79

#### Table 1: Loss Ratios for GRIP, RA, and CRC

The average loss ratio for soybeans, which have exhibited a more typical pricing pattern over this period, is 0.43, significantly lower than RA and CRC.

Premium rates for GRIP (and GRP) are updated on an annual basis and, thus, are kept up to date with the latest loss experience in the program.

2. There were no widespread yield declines in 2004 or 2005 for either corn or soybeans. So why did GRIP have significant indemnity payments when other products did not?

GRIP is a revenue product that provides protection against unexpected declines in revenue, whether due to low yields, low prices, or some combination thereof. In 2004, both corn and soybeans had significant price declines from spring to harvest. The corn price declined by 32% and soybeans declined by 28% (Table 2). Since most GRIP policyholders purchase the 90% coverage level, the price declines alone were sufficient to trigger indemnity payments, given no offsetting increase in yield. With RA and CRC, however, most policyholders purchase coverage levels of 65% to 75% -- coverage levels for which only minimal or no indemnity payments were made without the presence of additional yield losses.

Corn							
Year	1999	2000	2001	2002	2003	2004	2005
GRIP Base	\$2.44	\$2.47	\$2.45	\$2.30	\$2.38	\$2.93	\$2.38
GRIP Harvest	\$1.96	\$2.11	\$2.05	\$2.43	\$2.37	\$1.99	\$1.93
% Change	-20%	-15%	-16%	6%	0%	-32%	-19%
Soybeans							
Year	1999	2000	2001	2002	2003	2004	2005
GRIP Base	\$4.95	\$5.24	\$4.59	\$4.53	\$5.23	\$7.27	\$5.99
GRIP Harvest	\$4.85	\$4.72	\$4.37	\$5.45	\$7.32	\$5.26	\$5.75
% Change	-2%	-10%	-5%	20%	40%	-28%	-4%

Table 2: Base and Harvest Prices for GRIP Corn and Soybeans

In 2005, the corn price declined by 19% and the soybean price declined by 4%. As a result, 2005 GRIP soybean payments were negligible, and reflected only production losses in isolated counties. The payments for corn were more substantial due to the larger price decrease and drought-related yield losses in some parts of the Corn Belt.

# 3. Why does RMA allow GRIP and GRP policyholders to purchase up to a 90 percent coverage level?

The maximum coverage level available for GRIP and GRP is 90 percent, as compared to 85 percent for APH and the individual revenue products (e.g., CRC, RA). As area products, GRIP and GRP are much less susceptible to fraud and abuse than are other insurance products, with the result that higher coverage

levels can be offered without raising concerns about moral hazard and adverse selection endemic to individual products. With the 90 percent coverage level, both frequency and severity of losses will be higher. However, GRIP and GRP premium rates for the 90 percent coverage level reflect the expected increase in frequency and severity.

4. Were excessive expected county yields responsible for the large GRIP losses in 2004 and 2005?

The GRIP losses for 2004 and 2005 were mainly due to decreases in price. GRIP uses the same expected county yields as GRP. Hence, if GRIP yield guarantees were systematically too high and leading to excess losses in 2004 and 2005, the loss experience for GRP should likewise be poor. However, as shown in the Table 3, the loss experience of GRP corn and soybeans was highly favorable, with both crops experiencing loss ratios of less than 0.35 in both years. This suggests that the yields established for the area plans are generally appropriate; certainly, excessive yield guarantees were not responsible for large GRIP indemnity payments in either 2004 or 2005.

Crop	Product	2004	2005
Corn	GRIP	1.81	1.23
Com	GRP	0.14	0.33
Soy-	GRIP	1.98	0.07
beans	CRC	0.13	0.15

#### Table 3: Loss Ratios for GRIP and GRP

For 2006, the expected yield in some counties (especially in Illinois) increased by a larger margin than usual. This is largely a reflection of the high yields that have been experienced in much of the Corn Belt in recent years. Nevertheless, RMA is evaluating its method for determining the expected yields and will make adjustments as warranted.

# 5. What is the purpose of the 150% multiplier and how does it impact the actuarial soundness of GRIP?

The maximum protection per acre makes use of a multiplier that is generally available with GRIP and GRP programs. The multiplier serves two purposes: (1) to account for the decreased variability of county-average yields as compared to individual yields; and (2) to allow growers with above average yields to insure at an appropriately higher level of liability. Growers with below-average yields may also choose to insure some percentage above the county average. However, because producers with below-average yields are unable to influence either the frequency or severity of area plan indemnities, conventional overinsurance concerns are not applicable. Likewise, adverse selection against the program is not an issue as the county loss ratio (for a given coverage level) will be the same whether one, a few, or many producers purchase the coverage.

The multiplier serves to increase the protection per acre (i.e., liability) available with GRP and GRIP policies by up to 150 percent. That is, if the product of the trended county average yield and the implicit price generated a value of \$100 per acre, the 150% factor would increase the maximum protection per acre to \$150. The multiplier does not impact the trigger revenue/yield necessary to collect an indemnity.

In summary, the multiplier helps producers obtain coverage that better matches their individual loss expectations, but it has no impact on the actuarial soundness of either the GRP or GRIP programs.

6. Do GRIP and GRP provide an effective risk management tool given that neither provides coverage directly linked to individual losses?

Because GRIP and GRP are based on a county average yield, an individual grower may purchase a GRP/GRIP policy and receive no indemnity payment even though s/he individually may have suffered a significant loss. However, it is likewise true that this same grower may receive an indemnity payment even s/he individually suffered no loss, but the county as a whole did. This is the nature of any group or index product, be it GRIP or GRP. As a result, group policies are most appropriate for growers whose yield or revenue expectations are closely correlated with that of the county as a whole.

There are other differences between GRP/GRIP and an individual policy. GRP and GRIP do not offer replant payments as do some individual policies. On the other hand, growers do not have to go through a claims adjustment process under GRP/GRIP as they do under an individual policy.

7. When growers sign up for a GRIP or GRP policy, would their APH history still be available should they decide to switch back to an individual policy?

When a grower signs up for a GRIP or GRP policy, no prior reported individual production history is lost. Insurance companies and RMA still maintain a record of past production. Should a grower switch back to a yield based policy (i.e. APH, CRC, RA), he or she is still responsible for certifying production like any other grower applying for the same coverage. Growers should be aware that if they do not certify acreage and production for at least the most recent year in which the crop was grown, the approved APH yield is limited to 65 percent of the applicable county T-yield.

#### 8. What is RMA doing to evaluate and monitor GRIP & GRP performance?

RMA re-estimates GRIP and GRP premium rates annually. Thus, premium rates for these products are responsive to any changes in risk that may occur. Also, RMA is undertaking an evaluation of current yield trending procedures to see if

other approaches may offer some potential for improvement. RMA also examined pricing behavior on the futures exchanges, with a particular focus on corn futures to determine whether recent patterns represent a typical or atypical occurrence. RMA found that the recent years represent an anomaly in the historical behavior of corn prices.