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### **Risk Management Education Provided in RAMII Workshop<sup>1</sup>**

Dear RAMII Participant,

In table 1 is a copy of the results from the most recent RAMII workshop. The case study allows farmers to both buy and write options. This allows farmers to understand the risk of selling put options against the Revenue Protection (RP) crop insurance contract. The case study also includes SURE and ACRE that can add additional payments. Because of the very "low" cost of the Yield Adjusted Put in the RP, it has created the opportunity for expanded marketing strategies.

#### **Comments on the combined all "crop summary", Table 1:**

1. Participant 19 had the highest net income of \$370,600. He/she had a bumper wheat crop but only an average corn crop. He/she used futures and forward contracts to make his/her sales. Participant 19 did not elect ACRE and received the maximum direct payment (\$40,000). Participant 19 lost \$54,000 on calls that he/she purchased to cover futures and forward contract sales. He/she spent \$34,900 on crop insurance premiums and there were no indemnity payments. Participant 19 did a great job of managing risk by protecting preharvest sales with calls and crop insurance, but still made the highest net income. There was some luck because he/she drew a bumper wheat crop but it was not all luck because the corn crop was only average.

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2. Participant 2 generated \$302,617 in net income with a wheat crop failure. He/she generated returns with futures sales, selling of options, and forward contract sales. He/she also purchased the maximum crop insurance coverage and the wheat crop failure was caused by hail. He/she collected a \$295,000 indemnity payment on the wheat. This was from 80% RP plus private hail insurance. He/she also collected a \$25,067 ACRE payment on the wheat and \$32,000 in direct payments. He/she did not collect a SURE payment because the returns from the corn and the ACRE payment were large enough to eliminate it. He/she only had 1 chance out of 25 of drawing the total hail loss on the wheat but it happened. This was a very aggressive selling strategy but he/she had a lot of coverage from the insurance contracts. Without the insurance payment the net income would have been about \$45,000.
3. Participant 32 is interesting because he/she had a half of a corn crop (50 bushels). The cause of loss was hail but he/she did not purchase the additional private hail coverage. He/she purchased 80% RP coverage but eliminated the harvest price. He/she sold most of the crop with futures and forward contracts and did not cover any sales with calls. Had the price increased the results would have been much different for this participant. This still triggered a \$220,000 indemnity payment, a \$100,000 SURE payment, and a \$40,000 direct payment for a net income of \$211,600. Without the indemnity payment and SURE payment this would have been a large loss year.
4. Participant 29 drew a crop failure on both wheat and corn due to hail. The odds were very high against this draw. He/she had 70% RP coverage and no private hail on both crops. He/she sold some puts that made money. He/she forward contracted a "large" number of bushels and covered some of those sales with calls that expired worthless. He/she had to buy bushels on both crops to fill the forward contracts (-\$454,000), but he/she made money on the transaction. Participant 29 purchased lower priced cash grain and filled higher priced forward contracts, because the market declined. He/she collected \$466,000 in corn and wheat indemnity payments, \$100,000 in SURE payments, and \$40,000 in direct payments. He/she netted \$178,250 with crop failure on both crops.

The net incomes ranged from -\$3,300 to \$370,600 with a large amount of income results between the two extremes. The low income had an average crop on both crops, while some of the higher incomes occurred with crop damage. There were a lot of different strategies on both insurance and marketing tools that were followed. Some purchased options while others sold them. Some bought higher levels of crop insurance coverage and added private hail coverage while others purchased lower levels of coverage (I don't think anyone selected none). Everyone did a good job. The results would have been different with the other scenario but even with higher prices most would have been fine even with yield losses because many participants purchased the harvest price and several covered sales with calls and those calls would have paid under the other scenario.

Tables 2 and 3 are the summaries for wheat and corn crops. This allows one to look at the results for each individual crop. Tables 4-8 are the participant input sheets that will show decisions

made by the individual workshop participant. The input sheets will allow one to see what decisions were made and when they were made.

### **What Participants are Expected to Learn in the RAMII Workshop:**

1. The participants are all making decisions with the same cost of production, except for the amount spend on options and crop insurance, and with the same expected yield. However, due to management decisions the outcomes vary wildly. While it is true some element of luck is involved because they may draw a low yield that could also happen on their farm due to weather conditions, but it is not all luck. Even with low yields some participants still managed to generate positive incomes.
2. After the workshop most participants agreed the case problem used a realistic market and the case study really could happen on their farm, this year.
3. A written risk plan is more likely to be followed.
4. Purchase of Options will not protect from “small” price changes.
5. Many farmers do just fine by selling in increments and trying to get a high average rather than trying to pick the top of the market. Often times the more complicated marketing plans don’t add a great deal, but no decision is also a decision.
6. The Harvest Price can be replaced with calls but is normally more expensive.
7. Buy the “cheap” yield adjusted put and yield adjusted call in Crop Insurance and then sell a few of those RP options on the CME or KCBOT. In many cases this lowers the costs of revenue protection but should not be considered by farmers with no experience in the option market.
8. Selling out of the money puts have less risk because farmers also have additional downside protection from SURE and ACRE.
9. Out of the money calls will sell for a higher premium but have unlimited liability especially if combined with forward contract/hedge sales.
10. Selling out of the money calls combined with RP looks similar to marketing “window”.
11. Limit sale of options because RP options that are adjusted for yield have less value. Selling options is not a substitute for forward pricing the crop.

Thanks to all who participated.

Art & Dan

Table 1. Summary of Wheat and Corn Incomes from Case Study

SUMMARY - COMBINED	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Acres harvested	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930
Crop 1 Yield	120	100	100	100	100	120	120	100	50	100	100	120	20	100	120
Crop 2 Yield	43	9	52	9	43	52	43	43	9	9	43	43	52	43	22
Total Crop Marketing Income	\$954,300	\$699,950	\$864,350	\$658,500	\$948,050	\$986,250	\$919,950	\$763,150	\$286,500	\$529,000	\$705,000	\$1,018,000	\$567,500	\$891,250	\$808,300
Futures	\$78,500	\$96,000	\$53,500	\$132,500	\$16,000	\$36,000	\$0	-\$192,500	\$0	\$0	\$0	\$139,000	\$101,000	\$119,500	\$72,000
Put Options	\$6,750	\$9,250	\$250	-\$3,000	\$20,500	-\$31,250	\$3,500	\$49,000	\$0	\$0	\$0	\$0	-\$3,500	\$0	\$5,000
Call Options	\$5,800	\$7,700	\$5,350	\$0	\$37,050	-\$54,500	\$4,200	\$28,150	\$0	\$0	\$0	\$0	\$0	\$13,500	\$27,300
Forward Contract Sales	\$368,500	\$307,000	\$308,500	\$0	\$753,250	\$794,750	\$487,000	\$878,500	\$0	\$0	\$0	\$353,500	\$516,500	\$263,500	\$122,000
Cash Sales at Harvest	\$494,750	\$280,000	\$496,750	\$529,000	\$121,250	\$241,250	\$425,250	\$0	\$286,500	\$529,000	\$705,000	\$525,500	-\$46,500	\$494,750	\$582,000
Crop Insurance Payments	\$0	\$295,000	\$0	\$165,000	\$0	\$0	\$0	\$23,000	\$310,000	\$143,000	\$0	\$0	\$346,000	\$0	\$76,000
Sure Payments	\$0	\$0	\$0	\$77,723	\$0	\$0	\$0	\$0	\$100,000	\$66,658	\$0	\$0	\$98,691	\$0	\$0
ACRE Payments	\$0	\$25,067	\$0	\$25,067	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,067
LDP Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Counter-cyclical payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Direct Payments	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$40,000	\$32,000	\$32,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$32,000
Crop Insurance Premiums	\$22,300	\$49,400	\$17,700	\$22,300	\$22,300	\$43,900	\$36,800	\$58,400	\$11,300	\$10,100	\$16,100	\$22,300	\$34,900	\$22,300	\$16,000
Total Production Expenses	\$719,000	\$700,000	\$713,000	\$700,000	\$710,000	\$722,000	\$719,000	\$710,000	\$689,000	\$700,000	\$710,000	\$719,000	\$696,000	\$710,000	\$711,000
<b>Net Income</b>	<b>\$245,000</b>	<b>\$302,617</b>	<b>\$165,650</b>	<b>\$235,991</b>	<b>\$247,750</b>	<b>\$260,350</b>	<b>\$196,150</b>	<b>\$49,750</b>	<b>\$36,200</b>	<b>\$68,558</b>	<b>\$18,900</b>	<b>\$316,700</b>	<b>\$321,291</b>	<b>\$198,950</b>	<b>\$214,367</b>

SUMMARY - COMBINED	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Acres harvested	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930
Crop 1 Yield	100	120	100	100	100	100	100	20	100	100	50	120	100	20	100
Crop 2 Yield	43	52	52	52	43	43	52	43	22	43	52	43	43	9	22
Total Crop Marketing Income	\$829,250	\$978,000	\$776,800	\$1,078,500	\$775,750	\$839,000	\$969,250	\$469,500	\$790,500	\$924,500	\$801,000	\$960,500	\$830,500	\$271,250	\$612,050
Futures	\$42,000	\$0	\$0	\$226,000	-\$8,500	\$31,000	\$0	\$87,000	\$73,000	\$0	\$174,000	\$0	\$104,000	\$0	\$0
Put Options	\$0	\$0	-\$1,700	\$0	\$0	\$0	\$0	\$500	\$0	\$7,500	\$0	\$57,000	-\$9,500	\$6,250	-\$3,950
Call Options	\$0	\$0	\$0	-\$54,000	\$0	\$0	\$0	-\$3,500	\$0	-\$3,250	\$12,000	\$0	\$0	-\$20,000	-\$6,500
Forward Contract Sales	\$383,000	\$837,000	\$209,000	\$772,000	\$386,500	\$580,000	\$925,250	\$345,000	\$620,500	\$844,250	\$588,750	\$454,000	\$128,000	\$739,000	\$131,000
Cash Sales at Harvest	\$404,250	\$141,000	\$569,500	\$134,500	\$397,750	\$228,000	\$44,000	\$40,500	\$97,000	\$76,000	\$26,250	\$449,500	\$608,000	-\$454,000	\$491,500
Crop Insurance Payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$346,000	\$104,000	\$0	\$247,000	\$0	\$0	\$466,000	\$157,000
Sure Payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100,000	\$100,000	\$0	\$3,558	\$0	\$0	\$100,000	\$37,300
ACRE Payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$26,290	\$25,067	\$0	\$0	\$0	\$0	\$0	\$0
LDP Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Counter-cyclical payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Direct Payments	\$40,000	\$40,000	\$40,000	\$40,000	\$32,000	\$40,000	\$40,000	\$32,000	\$32,000	\$32,000	\$40,000	\$40,000	\$32,000	\$40,000	\$40,000
Crop Insurance Premiums	\$20,600	\$22,300	\$13,500	\$34,900	\$22,300	\$22,300	\$22,300	\$22,300	\$36,800	\$16,000	\$37,600	\$16,100	\$16,000	\$16,000	\$33,200
Total Production Expenses	\$710,000	\$722,000	\$713,000	\$713,000	\$710,000	\$710,000	\$713,000	\$693,000	\$702,000	\$710,000	\$702,000	\$719,000	\$710,000	\$683,000	\$702,000
<b>Net Income</b>	<b>\$138,650</b>	<b>\$273,700</b>	<b>\$90,300</b>	<b>\$370,600</b>	<b>\$75,450</b>	<b>\$146,700</b>	<b>\$273,950</b>	<b>\$259,148</b>	<b>\$312,767</b>	<b>\$230,500</b>	<b>\$351,958</b>	<b>\$265,400</b>	<b>\$136,500</b>	<b>\$178,250</b>	<b>\$111,150</b>

SUMMARY - COMBINED	31	32	33	34	35	36	37	38
Acres harvested	1,930	1,930	1,930	1,930	1,930	1,930	1,930	1,930
Average Yield	20	50	100	100	100	100	50	50
Total bushels	43	43	52	22	43	43	9	43
Total Crop Marketing Income	\$443,250	\$577,500	\$845,000	\$648,800	\$749,250	\$699,500	\$465,250	\$594,000
Futures	\$49,000	\$72,000	\$68,000	\$20,300	\$17,000	\$0	\$17,000	\$0
Put Options	\$45,500	\$0	-\$11,750	-\$2,500	\$4,000	-\$5,500	\$14,000	\$0
Call Options	-\$22,000	\$0	\$1,750	\$0	-\$1,750	\$0	\$0	\$0
Forward Contract Sales	\$312,500	\$271,000	\$190,000	\$222,000	\$128,500	\$0	\$600,500	\$587,500
Cash Sales at Harvest	\$58,250	\$234,500	\$597,000	\$409,000	\$601,500	\$705,000	-\$166,250	\$6,500
Crop Insurance Payments	\$346,000	\$220,000	\$0	\$90,000	\$0	\$0	\$355,000	\$190,000
Sure Payments	\$100,000	\$100,000	\$0	\$86,723	\$0	\$0	\$100,000	\$100,000
ACRE Payments	\$0	\$0	\$0	\$25,067	\$0	\$0	\$0	\$0
LDP Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Counter-cyclical payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Direct Payments	\$40,000	\$40,000	\$40,000	\$32,000	\$40,000	\$40,000	\$40,000	\$40,000
Crop Insurance Premiums	\$26,300	\$26,900	\$18,800	\$22,300	\$26,900	\$22,300	\$22,300	\$22,300
Total Production Expenses	\$693,000	\$699,000	\$713,000	\$702,000	\$710,000	\$710,000	\$689,000	\$699,000
<b>Net Income</b>	<b>\$209,950</b>	<b>\$211,600</b>	<b>\$153,200</b>	<b>\$158,291</b>	<b>\$52,350</b>	<b>-\$3,300</b>	<b>\$248,950</b>	<b>\$202,700</b>

Table 2. Summary of Corn Incomes from Case Study

<b>SUMMARY - Corn</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>
Acres harvested	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Average Yield	120	100	100	100	100	120	120	100	50	100	100	120	20	100	120
Total bushels	120,000	100,000	100,000	100,000	100,000	120,000	120,000	100,000	50,000	100,000	100,000	120,000	20,000	100,000	120,000
Total Crop Marketing Income	\$697,550	\$605,150	\$572,600	\$584,000	\$677,300	\$697,500	\$679,750	\$623,450	\$242,500	\$485,000	\$485,000	\$747,000	\$258,000	\$638,250	\$665,300
Futures	\$62,000	\$57,500	\$41,000	\$102,000	\$12,000	\$36,000	\$0	-\$52,500	\$0	\$0	\$0	\$103,000	\$87,000	\$116,500	\$56,000
Put Options	\$5,500	\$6,450	\$250	-\$3,000	\$10,500	-\$37,500	\$3,500	\$30,000	\$0	\$0	\$0	\$0	-\$3,500	\$0	\$0
Call Options	\$5,300	\$4,200	\$3,600	\$0	\$30,300	-\$45,500	\$2,500	\$23,450	\$0	\$0	\$0	\$0	\$0	\$13,500	\$27,300
Forward Contract Sales	\$212,500	\$246,000	\$212,500	\$0	\$503,250	\$574,750	\$358,500	\$622,500	\$0	\$0	\$0	\$256,000	\$320,000	\$96,000	\$0
Cash Sales at Harvest	\$412,250	\$291,000	\$315,250	\$485,000	\$121,250	\$169,750	\$315,250	\$0	\$242,500	\$485,000	\$485,000	\$388,000	-\$145,500	\$412,250	\$582,000
Crop Insurance Payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$160,000	\$0	\$0	\$0	\$346,000	\$0	\$0
ACRE Payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
LDP Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Counter-cyclical payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Direct Payments	\$22,400	\$22,400	\$22,400	\$22,400	\$22,400	\$28,000	\$22,400	\$22,400	\$28,000	\$28,000	\$28,000	\$28,000	\$28,000	\$28,000	\$22,400
Crop Insurance Premiums	\$16,200	\$26,700	\$11,600	\$16,200	\$16,200	\$25,200	\$26,700	\$35,700	\$8,400	\$7,900	\$12,000	\$16,200	\$16,200	\$16,200	\$11,600
Total Production Expenses	\$446,000	\$437,000	\$437,000	\$437,000	\$437,000	\$446,000	\$446,000	\$437,000	\$426,000	\$437,000	\$437,000	\$446,000	\$420,000	\$437,000	\$446,000
<b>Net Income</b>	<b>\$257,750</b>	<b>\$163,850</b>	<b>\$146,400</b>	<b>\$153,200</b>	<b>\$246,500</b>	<b>\$254,300</b>	<b>\$229,450</b>	<b>\$173,150</b>	<b>-\$3,900</b>	<b>\$68,100</b>	<b>\$64,000</b>	<b>\$312,800</b>	<b>\$195,800</b>	<b>\$213,050</b>	<b>\$230,100</b>

<b>SUMMARY - Corn</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
Acres harvested	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Average Yield	100	120	100	100	100	100	100	20	100	100	50	120	100	20	100
Total bushels	100,000	120,000	100,000	100,000	100,000	100,000	100,000	20,000	100,000	100,000	50,000	120,000	100,000	20,000	100,000
Total Crop Marketing Income	\$594,250	\$672,000	\$501,300	\$722,000	\$529,250	\$596,000	\$668,250	\$234,000	\$662,000	\$682,500	\$503,000	\$713,750	\$576,000	\$226,750	\$499,550
Futures	\$42,000	\$0	\$0	\$139,000	-\$5,000	\$32,000	\$0	\$87,000	\$73,000	\$0	\$169,000	\$0	\$71,000	\$0	\$0
Put Options	\$0	\$0	-\$1,700	\$0	\$0	\$0	\$0	\$500	\$0	\$500	\$0	\$49,250	-\$11,000	\$6,250	-\$950
Call Options	\$0	\$0	\$0	-\$11,500	\$0	\$0	\$0	-\$3,500	\$0	\$16,250	\$7,000	\$0	\$0	-\$6,500	\$0
Forward Contract Sales	\$285,500	\$575,000	\$115,000	\$449,000	\$219,000	\$418,500	\$668,250	\$247,000	\$492,000	\$617,250	\$399,750	\$325,000	\$128,000	\$615,000	\$64,000
Cash Sales at Harvest	\$266,750	\$97,000	\$388,000	\$145,500	\$315,250	\$145,500	\$0	-\$97,000	\$97,000	\$48,500	-\$72,750	\$339,500	\$388,000	-\$388,000	\$436,500
Crop Insurance Payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$346,000	\$0	\$0	\$247,000	\$0	\$0	\$316,000	\$0
ACRE Payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$26,948	\$0	\$0	\$0	\$0	\$0	\$0	\$0
LDP Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Counter-cyclical payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Direct Payments	\$28,000	\$28,000	\$28,000	\$28,000	\$22,400	\$28,000	\$28,000	\$22,400	\$22,400	\$22,400	\$28,000	\$28,000	\$22,400	\$28,000	\$28,000
Crop Insurance Premiums	\$16,200	\$16,200	\$11,300	\$16,200	\$16,200	\$16,200	\$16,200	\$16,200	\$26,700	\$11,600	\$20,600	\$12,000	\$11,600	\$11,600	\$16,200
Total Production Expenses	\$437,000	\$446,000	\$437,000	\$437,000	\$437,000	\$437,000	\$437,000	\$420,000	\$437,000	\$437,000	\$426,000	\$446,000	\$437,000	\$420,000	\$437,000
<b>Net Income</b>	<b>\$169,050</b>	<b>\$237,800</b>	<b>\$81,000</b>	<b>\$296,800</b>	<b>\$98,450</b>	<b>\$170,800</b>	<b>\$243,050</b>	<b>\$193,148</b>	<b>\$220,700</b>	<b>\$256,300</b>	<b>\$331,400</b>	<b>\$283,750</b>	<b>\$149,800</b>	<b>\$139,150</b>	<b>\$74,350</b>

<b>SUMMARY - Corn</b>	<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>
Acres harvested	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Average Yield	20	50	100	100	100	100	50	50
Total bushels	20,000	50,000	100,000	100,000	100,000	100,000	50,000	50,000
Total Crop Marketing Income	\$187,250	\$317,000	\$561,500	\$511,550	\$512,500	\$479,500	\$389,750	\$349,500
Futures	\$31,000	\$45,000	\$62,000	\$20,300	\$8,000	\$0	\$8,000	\$0
Put Options	\$49,000	\$0	-\$11,500	-\$6,750	\$4,000	-\$5,500	\$14,000	\$0
Call Options	-\$22,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Forward Contract Sales	\$153,500	\$175,000	\$123,000	\$61,500	\$64,000	\$0	\$440,500	\$398,000
Cash Sales at Harvest	-\$24,250	\$97,000	\$388,000	\$436,500	\$436,500	\$485,000	-\$72,750	-\$48,500
Crop Insurance Payments	\$346,000	\$220,000	\$0	\$0	\$0	\$0	\$190,000	\$190,000
ACRE Payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
LDP Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Counter-cyclical payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Direct Payments	\$28,000	\$28,000	\$28,000	\$22,400	\$28,000	\$28,000	\$28,000	\$28,000
Crop Insurance Premiums	\$16,200	\$20,100	\$12,000	\$16,200	\$20,100	\$26,700	\$16,200	\$16,200
Total Production Expenses	\$420,000	\$426,000	\$437,000	\$437,000	\$437,000	\$437,000	\$426,000	\$426,000
<b>Net Income</b>	<b>\$125,050</b>	<b>\$118,900</b>	<b>\$140,500</b>	<b>\$80,750</b>	<b>\$83,400</b>	<b>\$43,800</b>	<b>\$165,550</b>	<b>\$125,300</b>

Table 3. Summary of Wheat Incomes from Case Study

<b>SUMMARY - Wheat</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>
Acres harvested	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558
Average Yield	43	9	52	9	43	52	43	43	9	9	43	43	52	43	22
Total bushels	40,000	8,000	48,000	8,000	40,000	48,000	40,000	40,000	8,000	8,000	40,000	40,000	48,000	40,000	20,000
Total Crop Marketing Income	\$256,750	\$94,800	\$291,750	\$74,500	\$270,750	\$288,750	\$240,200	\$139,700	\$44,000	\$44,000	\$220,000	\$271,000	\$309,500	\$253,000	\$143,000
Futures	\$16,500	\$38,500	\$12,500	\$30,500	\$4,000	\$0	\$0	-\$140,000	\$0	\$0	\$0	\$36,000	\$14,000	\$3,000	\$16,000
Put Options	\$1,250	\$2,800	\$0	\$0	\$10,000	\$6,250	\$0	\$19,000	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000
Call Options	\$500	\$3,500	\$1,750	\$0	\$6,750	-\$9,000	\$1,700	\$4,700	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Forward Contract Sales	\$156,000	\$61,000	\$96,000	\$0	\$250,000	\$220,000	\$128,500	\$256,000	\$0	\$0	\$0	\$97,500	\$196,500	\$167,500	\$122,000
Cash Sales at Harvest	\$82,500	-\$11,000	\$181,500	\$44,000	\$0	\$71,500	\$110,000	\$0	\$44,000	\$44,000	\$220,000	\$137,500	\$99,000	\$82,500	\$0
Crop Insurance Payments	\$0	\$295,000	\$0	\$165,000	\$0	\$0	\$0	\$23,000	\$150,000	\$143,000	\$0	\$0	\$0	\$0	\$76,000
ACRE Payments	\$0	\$25,067	\$0	\$25,067	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,067
LDP Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Counter-cyclical payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Direct Payments	\$9,600	\$9,600	\$9,600	\$9,600	\$9,600	\$12,000	\$9,600	\$9,600	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$9,600
Crop Insurance Premiums	\$6,100	\$22,700	\$6,100	\$6,100	\$6,100	\$18,700	\$10,100	\$22,700	\$2,900	\$2,200	\$4,100	\$6,100	\$18,700	\$6,100	\$4,400
Total Production Expenses	\$273,000	\$263,000	\$276,000	\$263,000	\$273,000	\$276,000	\$273,000	\$273,000	\$263,000	\$263,000	\$273,000	\$273,000	\$276,000	\$273,000	\$265,000
<b>Net Income</b>	<b>-\$12,750</b>	<b>\$138,767</b>	<b>\$19,250</b>	<b>\$5,067</b>	<b>\$1,250</b>	<b>\$6,050</b>	<b>-\$33,300</b>	<b>-\$123,400</b>	<b>-\$59,900</b>	<b>-\$66,200</b>	<b>-\$45,100</b>	<b>\$3,900</b>	<b>\$26,800</b>	<b>-\$14,100</b>	<b>-\$15,733</b>

<b>SUMMARY - Wheat</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
Acres harvested	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558
Average Yield	43	52	52	52	43	43	52	43	22	43	52	43	43	9	22
Total bushels	40,000	48,000	48,000	48,000	40,000	40,000	48,000	40,000	20,000	40,000	48,000	40,000	40,000	8,000	20,000
Total Crop Marketing Income	\$235,000	\$306,000	\$275,500	\$356,500	\$246,500	\$243,000	\$301,000	\$235,500	\$128,500	\$242,000	\$298,000	\$246,750	\$254,500	\$44,500	\$112,500
Futures	\$0	\$0	\$0	\$87,000	-\$3,500	-\$1,000	\$0	\$0	\$0	\$0	\$5,000	\$0	\$33,000	\$0	\$0
Put Options	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,000	\$0	\$7,750	\$1,500	\$0	-\$3,000
Call Options	\$0	\$0	\$0	-\$42,500	\$0	\$0	\$0	\$0	\$0	-\$19,500	\$5,000	\$0	\$0	-\$13,500	-\$6,500
Forward Contract Sales	\$97,500	\$262,000	\$94,000	\$323,000	\$167,500	\$161,500	\$257,000	\$98,000	\$128,500	\$227,000	\$189,000	\$129,000	\$0	\$124,000	\$67,000
Cash Sales at Harvest	\$137,500	\$44,000	\$181,500	-\$11,000	\$82,500	\$82,500	\$44,000	\$137,500	\$0	\$27,500	\$99,000	\$110,000	\$220,000	-\$66,000	\$55,000
Crop Insurance Payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$104,000	\$0	\$0	\$0	\$0	\$150,000	\$157,000
ACRE Payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,067	\$0	\$0	\$0	\$0	\$0	\$0
LDP Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Counter-cyclical payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Direct Payments	\$12,000	\$12,000	\$12,000	\$12,000	\$9,600	\$12,000	\$12,000	\$9,600	\$9,600	\$9,600	\$12,000	\$12,000	\$9,600	\$12,000	\$12,000
Crop Insurance Premiums	\$4,400	\$6,100	\$2,200	\$18,700	\$6,100	\$6,100	\$6,100	\$6,100	\$10,100	\$4,400	\$17,000	\$4,100	\$4,400	\$4,400	\$17,000
Total Production Expenses	\$273,000	\$276,000	\$276,000	\$276,000	\$273,000	\$273,000	\$276,000	\$273,000	\$265,000	\$273,000	\$276,000	\$273,000	\$273,000	\$263,000	\$265,000
<b>Net Income</b>	<b>-\$30,400</b>	<b>\$35,900</b>	<b>\$9,300</b>	<b>\$73,800</b>	<b>-\$23,000</b>	<b>-\$24,100</b>	<b>\$30,900</b>	<b>-\$34,000</b>	<b>-\$7,933</b>	<b>-\$25,800</b>	<b>\$17,000</b>	<b>-\$18,350</b>	<b>-\$13,300</b>	<b>-\$60,900</b>	<b>-\$500</b>

<b>SUMMARY - Wheat</b>	<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>
Acres harvested	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558	930.232558
Average Yield	43	43	52	22	43	43	9	43
Total bushels	40,000	40,000	48,000	20,000	40,000	40,000	8,000	40,000
Total Crop Marketing Income	\$256,000	\$260,500	\$283,500	\$137,250	\$236,750	\$220,000	\$75,500	\$244,500
Futures	\$18,000	\$27,000	\$6,000	\$0	\$9,000	\$0	\$9,000	\$0
Put Options	-\$3,500	\$0	-\$250	\$4,250	\$0	\$0	\$0	\$0
Call Options	\$0	\$0	\$1,750	\$0	-\$1,750	\$0	\$0	\$0
Forward Contract Sales	\$159,000	\$96,000	\$67,000	\$160,500	\$64,500	\$0	\$160,000	\$189,500
Cash Sales at Harvest	\$82,500	\$137,500	\$209,000	-\$27,500	\$165,000	\$220,000	-\$93,500	\$55,000
Crop Insurance Payments	\$0	\$0	\$0	\$90,000	\$0	\$0	\$165,000	\$0
ACRE Payments	\$0	\$0	\$0	\$25,067	\$0	\$0	\$0	\$0
LDP Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Counter-cyclical payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Direct Payments	\$12,000	\$12,000	\$12,000	\$9,600	\$12,000	\$12,000	\$12,000	\$12,000
Crop Insurance Premiums	\$10,100	\$6,800	\$6,800	\$6,100	\$6,800	\$6,100	\$6,100	\$6,100
Total Production Expenses	\$273,000	\$273,000	\$276,000	\$265,000	\$273,000	\$273,000	\$263,000	\$273,000
<b>Net Income</b>	<b>-\$15,100</b>	<b>-\$7,300</b>	<b>\$12,700</b>	<b>-\$9,183</b>	<b>-\$31,050</b>	<b>-\$47,100</b>	<b>-\$16,600</b>	<b>-\$22,600</b>

Table 4. Corn Input Sheet from Case Study, Participants 1-13

**Corn Datasheet**

Example

Participant Number: 1 2 3 4 5 6 7 8 9 10 11 12 13

**Decision 1**

Insurance	7	2	12	7	7	24	2	19	13	11	8	7	7
ACRE Program (1=Yes; 2=No)	1	1	1	1	1	2	1	1				2	2
Futures Sold	5,000	40,000		15,000	15,000			10,000				20,000	
Puts Bought 1	5,000		5,000	10,000				15,000					
Puts Sold 1		25,000											
Strike Price (Put) 1	\$6.00	\$5.00	\$6.00	\$5.00				\$6.00					
Calls Bought 1					10,000	10,000							
Calls Sold 1		20,000	10,000			6		10,000					
Strike Price (Call) 1		\$8.00	\$8.00		\$7.00			\$7.00					
Puts Bought 2													
Puts Sold 2	20,000												
Strike Price (Put) 2	\$5.00												
Calls Bought 2													
Calls Sold 2													
Strike Price (Call) 2													
Forward contract	5,000		5,000			10,000	5,000						

**Decision 2**

Futures: sold		35,000	5,000	50,000		20,000		20,000					
Futures: bought													
Puts Bought 1	5,000						5,000	15,000					10,000
Puts Sold 1													
Strike Price (Put) 1	\$6.00						\$6.50	\$7.00					\$6.50
Calls Bought 1					30,000	20,000							
Calls Sold 1	10,000		10,000				5,000	10,000					
Strike Price (Call) 1	\$9.00		\$10.00		\$7.00	\$7.00	\$8.00	\$8.00					
Puts Bought 2													
Puts Sold 2								15,000					
Strike Price (Put) 2								\$6.00					
Calls Bought 2													
Calls Sold 2													
Strike Price (Call) 2													
Forward contract	10,000		10,000		30,000	20,000	10,000	30,000				40,000	50,000

**Decision 3**

Futures: sold	20,000	5,000	20,000					25,000				30,000	30,000
Futures: bought													
Puts Bought 1		15,000			15,000			15,000					
Puts Sold 1													10,000
Strike Price (Put) 1		\$5.00			\$8.00			\$7.00					\$6.50
Calls Bought 1						30,000							
Calls Sold 1	10,000				40,000			15,000					
Strike Price (Call) 1	\$10.00				\$7.00	\$8.00		\$8.00					
Puts Bought 2													
Puts Sold 2													
Strike Price (Put) 2													
Calls Bought 2													
Calls Sold 2													
Strike Price (Call) 2													
Forward contract					30,000	50,000	20,000						

Price Scenario (Low=1; Hi = 2)

1

**Decision 4**

Futures: sold				20,000									
Futures: bought		40,000	20,000	20,000				70,000					
Puts Bought 1		10,000											
Puts Sold 1	5,000				15,000	30,000							
Strike Price (Put) 1	\$6.00	\$5.00			\$8.00	\$8.00							
Calls Bought 1	20,000												
Calls Sold 1													
Strike Price (Call) 1	\$8.00												
Puts Bought 2													
Puts Sold 2													
Strike Price (Put) 2													
Calls Bought 2													
Calls Sold 2													
Strike Price (Call) 2													
Forward contract	20,000	40,000	20,000		15,000	5,000	20,000	70,000					

Table 5. Corn Input Sheet from Case Study, Participants 14-26

**Corn Datasheet**

Participant Number: 14 15 16 17 18 19 20 21 22 23 24 25 26

**Decision 1**

Insurance	7	12	7	7	6	7	7	7	7	7	2	12	29
ACRE Program (1=Yes; 2=No)	2	1	2	2	2	2	1	2	2	1	1	1	2
Futures Sold	25,000	70,000	5,000			20,000	10,000						10,000
Puts Bought 1					10,000					10,000		10,000	
Puts Sold 1													
Strike Price (Put) 1					\$5.00					\$6.00		\$6.00	
Calls Bought 1	25,000	70,000				20,000							
Calls Sold 1													
Strike Price (Call) 1	\$7.00	\$8.00				\$6.00							
Puts Bought 2													
Puts Sold 2													
Strike Price (Put) 2													
Calls Bought 2													
Calls Sold 2													
Strike Price (Call) 2													
Forward contract			5,000	50,000	10,000	20,000		15,000	5,000	5,000			

**Decision 2**

Futures: sold			5,000			20,000					50,000		25,000
Futures: bought													
Puts Bought 1													
Puts Sold 1					10,000								
Strike Price (Put) 1					\$5.00								
Calls Bought 1						20,000						25,000	
Calls Sold 1	10,000	35,000											25,000
Strike Price (Call) 1	\$7.00	\$8.00				\$7.50						\$7.00	\$9.00
Puts Bought 2													
Puts Sold 2													
Strike Price (Put) 2													
Calls Bought 2													
Calls Sold 2													
Strike Price (Call) 2													
Forward contract	15,000		10,000	50,000	10,000	20,000	15,000	15,000	50,000	25,000		25,000	

**Decision 3**

Futures: sold	40,000		10,000			30,000		20,000		30,000	30,000		40,000
Futures: bought													
Puts Bought 1													
Puts Sold 1													
Strike Price (Put) 1													
Calls Bought 1	20,000					30,000				10,000			
Calls Sold 1		35,000										25,000	
Strike Price (Call) 1	\$10.00	\$8.00				\$8.00				\$10.00		\$7.00	
Puts Bought 2													
Puts Sold 2													
Strike Price (Put) 2													
Calls Bought 2													
Calls Sold 2	15,000					20,000							
Strike Price (Call) 2	\$7.00					\$6.00							
Forward contract			10,000			30,000			40,000			50,000	

**Price Scenario (Low=1; Hi = 2)**

**Decision 4**

Futures: sold													
Futures: bought	15,000						10,000	20,000			80,000		
Puts Bought 1													
Puts Sold 1													
Strike Price (Put) 1													
Calls Bought 1		35,000											
Calls Sold 1													
Strike Price (Call) 1		\$7.00											
Puts Bought 2													
Puts Sold 2													
Strike Price (Put) 2													
Calls Bought 2													
Calls Sold 2													
Strike Price (Call) 2													
Forward contract			20,000				20,000	40,000	5,000	10,000	80,000	15,000	65,000

Table 6. Corn Input Sheet from Case Study, Participants 27-38

**Corn Datasheet**

Participant Number: 27 28 29 30 31 32 33 34 35 36 37 38

**Decision 1**

Insurance	8	12	12	7	7	3	8	7	3	2	7	7
ACRE Program (1=Yes; 2=No)	2	1	2	2	2	2	2	1	2	2	2	2
Futures Sold					5,000	20,000	5,000	5,000	10,000		10,000	
Puts Bought 1	10,000							5,000				
Puts Sold 1		10,000		10,000								
Strike Price (Put) 1	\$6.00	\$5.00		\$5.00				\$8.00				
Calls Bought 1			20,000		20,000							
Calls Sold 1												
Strike Price (Call) 1			\$6.00		\$5.00							
Puts Bought 2												
Puts Sold 2												
Strike Price (Put) 2												
Calls Bought 2												
Calls Sold 2												
Strike Price (Call) 2												
Forward contract	10,000		40,000		5,000	20,000					5,000	10,000

**Decision 2**

Futures: sold					15,000			1,000				
Futures: bought												
Puts Bought 1			10,000					10,000		20,000		
Puts Sold 1				10,000			10,000					
Strike Price (Put) 1			\$6.50	\$5.75			\$7.50		\$6.00		\$6.50	
Calls Bought 1												
Calls Sold 1			10,000									
Strike Price (Call) 1			\$7.00									
Puts Bought 2												
Puts Sold 2												
Strike Price (Put) 2												
Calls Bought 2												
Calls Sold 2												
Strike Price (Call) 2												
Forward contract	20,000	20,000	30,000	10,000	20,000				10,000			20,000

**Decision 3**

Futures: sold		20,000				10,000	20,000	5,000				
Futures: bought												
Puts Bought 1	25,000		15,000		35,000							
Puts Sold 1		10,000		5,000			5,000					
Strike Price (Put) 1	\$8.00	\$7.00	\$5.00	\$6.50	\$7.00			\$8.00				
Calls Bought 1												
Calls Sold 1												
Strike Price (Call) 1												
Puts Bought 2												
Puts Sold 2												
Strike Price (Put) 2												
Calls Bought 2												
Calls Sold 2												
Strike Price (Call) 2												
Forward contract	20,000		30,000			10,000					40,000	30,000

**Price Scenario (Low=1; Hi = 2)**

**Decision 4**

Futures: sold		10,000										
Futures: bought												
Puts Bought 1												
Puts Sold 1									10,000			
Strike Price (Put) 1									\$6.00			
Calls Bought 1												
Calls Sold 1												
Strike Price (Call) 1												
Puts Bought 2												
Puts Sold 2												
Strike Price (Put) 2												
Calls Bought 2												
Calls Sold 2												
Strike Price (Call) 2												
Forward contract							20,000	10,000			20,000	

Table 7. Wheat Input Sheet from Case Study, Participants 1-19

Wheat Datasheet

Participant Number: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

Decision 1

Insurance	7	19	7	7	7	24	2	19	13	11	8	7	24	7	12	12	7	11	24
ACRE Program (1=Yes; 2=No)	1	1	1	1	1	2	1	1				2	2	2	1	2	2	2	2
Futures Sold		10,000	5,000	5,000	10,000			5,000					5,000		10,000				
Puts Bought 1	5,000					5,000													
Puts Sold 1		10,000																	
Strike Price (Put) 1	\$7.00	\$5.00				\$7.00													
Calls Bought 1																			
Calls Sold 1		5,000						5,000											
Strike Price (Call) 1		9						9											
Puts Bought 2																			
Puts Sold 2	10,000					10,000													
Strike Price (Put) 2	\$5.00					\$5.00													
Calls Bought 2																			
Calls Sold 2																			
Strike Price (Call) 2																			
Forward contract	5,000					5,000	5,000												10,000

Decision 2

Futures: sold	10,000	15,000		10,000				10,000				20,000	5,000	10,000	10,000					40,000	
Futures: bought																					
Puts Bought 1					20,000	10,000		10,000							10,000						
Puts Sold 1	5,000																				
Strike Price (Put) 1	\$7.00				\$8.00	\$8.00		\$8.50							\$8.00						
Calls Bought 1																				40,000	
Calls Sold 1	10,000		5,000		5,000		5,000	5,000													
Strike Price (Call) 1	\$12.00		\$12.00		\$9.00		\$12.00	\$12.00												\$9.00	
Puts Bought 2																					
Puts Sold 2																					
Strike Price (Put) 2																					
Calls Bought 2																					
Calls Sold 2																					
Strike Price (Call) 2																					
Forward contract			5,000										5,000						20,000	5,000	40,000

Decision 3

Futures: sold	5,000	5,000	5,000	5,000																10,000
Futures: bought								20,000					10,000							
Puts Bought 1		10,000						10,000												
Puts Sold 1																				
Strike Price (Put) 1		\$5.00						\$8.50												
Calls Bought 1							10,000													10,000
Calls Sold 1					10,000															
Strike Price (Call) 1					\$9.00	\$9.00														\$8.00
Puts Bought 2																				
Puts Sold 2																				
Strike Price (Put) 2																				
Calls Bought 2																				
Calls Sold 2																				
Strike Price (Call) 2																				
Forward contract	5,000		5,000		10,000	10,000	10,000	20,000				10,000	20,000	25,000		10,000	20,000			10,000

Price Scenario (Low=1; Hi = 2)

1

Decision 4

Futures: sold																				
Futures: bought	15,000	10,000			10,000			15,000							20,000					
Puts Bought 1																				
Puts Sold 1																				
Strike Price (Put) 1																				
Calls Bought 1	15,000					20,000	5,000	5,000												
Calls Sold 1																				
Strike Price (Call) 1	\$8.00					\$7.50	\$12.00	\$9.00												
Puts Bought 2																				
Puts Sold 2																				
Strike Price (Put) 2																				
Calls Bought 2								5,000												
Calls Sold 2																				
Strike Price (Call) 2								\$12.00												
Forward contract	15,000	10,000	5,000		30,000	20,000	5,000	20,000				5,000	5,000		20,000	5,000				

Table 8. Wheat Input Sheet from Case Study, Participants 20-38

Wheat Datasheet

Participant Number: 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38

Decision 1

Insurance	7	7	7	7	2	12	29	8	12	12	29	2	3	3	7	3	7	7	7
ACRE Program (1=Yes; 2=No)	1	2	2	1	1	1	2	2	1	2	2	2	2	2	1	2	2	2	2
Futures Sold	10,000	5,000					5,000												
Puts Bought 1								5,000			10,000	10,000		5,000					
Puts Sold 1									5,000										
Strike Price (Put) 1								\$7.00	\$5.00		\$5.00	\$7.00		\$7.00					
Calls Bought 1										10,000									
Calls Sold 1							10,000												
Strike Price (Call) 1							9			7									
Puts Bought 2																			
Puts Sold 2									5,000					5,000					
Strike Price (Put) 2									\$5.00					\$5.00					
Calls Bought 2																			
Calls Sold 2																			
Strike Price (Call) 2																			
Forward contract			10,000	5,000	5,000			10,000		20,000		5,000			5,000	5,000			20,000

Decision 2

Futures: sold	5,000	5,000					10,000		10,000			10,000	15,000			5,000		5,000	
Futures: bought																			
Puts Bought 1							10,000								5,000				
Puts Sold 1																			
Strike Price (Put) 1							\$8.50								\$9.00				
Calls Bought 1							15,000				5,000					5,000			
Calls Sold 1															5,000				
Strike Price (Call) 1							\$8.00				\$8.00			\$12.00		\$12.00			
Puts Bought 2																			
Puts Sold 2																			
Strike Price (Put) 2																			
Calls Bought 2																			
Calls Sold 2																			
Strike Price (Call) 2																			
Forward contract			20,000			15,000						20,000	15,000		5,000			5,000	5,000

Decision 3

Futures: sold									10,000										
Futures: bought	15,000	10,000					10,000												
Puts Bought 1								5,000											
Puts Sold 1																			
Strike Price (Put) 1								\$7.50											
Calls Bought 1							10,000												
Calls Sold 1																			
Strike Price (Call) 1							\$9.00												
Puts Bought 2																			
Puts Sold 2																			
Strike Price (Put) 2																			
Calls Bought 2																			
Calls Sold 2																			
Strike Price (Call) 2																			
Forward contract	25,000	15,000	10,000	10,000	10,000	15,000	10,000	10,000			10,000			10,000	10,000	5,000		10,000	5,000

Price Scenario (Low=1; Hi = 2)

Decision 4

Futures: sold														10,000					
Futures: bought							5,000												
Puts Bought 1								10,000											
Puts Sold 1																			
Strike Price (Put) 1								\$8.00											
Calls Bought 1																			
Calls Sold 1																			
Strike Price (Call) 1																			
Puts Bought 2																			
Puts Sold 2																			
Strike Price (Put) 2																			
Calls Bought 2																			
Calls Sold 2																			
Strike Price (Call) 2																			
Forward contract		10,000			5,000	5,000	20,000								5,000			10,000	