STAFF PAPER

Department of Agricultural Economics
Kansas State University

EXPERIENTIAL LEARNING THROUGH TRADING AGRICULTURAL COMMODITIES

TED SCHROEDER, WILLIAM I. TIERNEY, JR.
AND HARVEY KISER*

JULY 1994
No. 95-3

KSU
KANSAS STATE UNIVERSITY

Department of Agricultural Economics
Kansas State University, Manhattan, Kansas 66506

Experiential Learning Through Trading Agricultural Commodities

"Tell me and I'll forget.   Show me and I'll remember.   Involve me and I'll understand." (Carter et al. in Gentry p. 9).

Agricultural Economics graduates enter a turbulent business environment that demands problem solving with less than perfect information. Problem solving skills are difficult to instill in formal classroom settings because the environment facing real-world decision makers is too complex to simulate. The Agricultural Economics profession prides itself in a strong problem-solving curriculum that is based on theory and applied to real-world problems. Agricultural Economics graduates pursue careers that require relatively higher mathematical, computer, and economic skills than other College of Agriculture graduates (Barkley), suggesting that they are making decisions based upon analytical economics. We often *assume* that students who perform well in an academic environment will also excel in real world economic analysis. However, this is not always the case, and continued efforts must be made to help students learn to apply their knowledge in making sound decisions after commencement.

Hutchings and Wutzdorff (pp. 1-2) effectively summarize this concern:

"As many faculty members discover, students who excel in difficult theoretical courses can sometimes be surprisingly paralyzed by the working world, while those who rarely contribute in class may come forward with thoughtful, substantive responses to challenges in a professional setting. Many students either lack or do not successfully apply the skills of inquiry and reflection that are needed to derive learning from a situation that, unlike the classroom, is not structured around their needs as learners. ... Other students bring a conceptual framework or theory to bear on work tasks, but they find that it does not correspond to what they see. In response to this discrepancy, they may take a dualistic approach, concluding that one must choose between theory and reality. Again and again, we see instances in which students are not able to link what they know with what they do."

Because standard classroom environments are not always conducive to helping students transfer knowledge into real-world settings, alternative approaches should be considered. One method that has long been used in the natural sciences is the use of laboratories to provide students with hands-on experience to test concrete theories and/or apply them to actual situations. Laboratory experiments complement, not replace, more structured classroom lectures. Similarly, journalism students often have the opportunity to publish a university newspaper as part of their educational training. Agricultural Economics, because of the broad scope and intangibility of its subject matter, may not be as conducive to laboratories as is Soil Science.

However, there are opportunities for our students to *experience* economic phenomena. One method Agricultural Economics instructors often use to bring real-world applications to the classroom is applied lectures and problem sets that relate theories to ideas that the students have experienced. However, if students have not experienced the particular application, the effectiveness of the application in helping to transfer knowledge is reduced. In addition, if students are allowed to discover their own rules through active participation, learning is thought to be more effective and knowledge retained longer (Burns). This provides part of the motivation for the focus of this paper to examine the use and effectiveness of experiential learning in Agricultural Economics. The specific objectives of this paper are to examine the process, benefits, and drawbacks of students participating in a commodity trading fund and to determine the effectiveness of students learning commodity futures market trading, price analysis, and fund-risk management through the student-operated commodity fund. The fund makes actual trades financed by money invested by student investor-operators.

Experiential Learning

Business schools have recognized the value of and used case studies in teaching for over 70 years (Lovelock). Simulations have been recognized as effective tools for helping teach Agricultural Economics concepts in farm and agribusiness management (Babb; Dahlgran 1986 and 1987). Internships, student boards of directors, case farm studies, and marketing teams are other examples of experiential learning processes which have been frequently used in Agricultural Economics curricula. In teaching commodity futures market trading, "paper" trading simulations have been used extensively at numerous universities to provide students experience in monitoring one or a few commodity markets. These "paper" trading exercises have served an important role in giving students an incentive to monitor the market. If students were motivated to follow the market, it was expected that they would gain experience in market determinants and gain a better understanding of the types and magnitudes of risk present in the market. Although the paper-trading activity has served a useful purpose, it also has several limitations including: 1) students may only be exposed to one or a few commodity markets, 2) incentives to conduct analyses may be difficult to instill, 3) financial risk cannot be appreciated without the threat of actual financial losses, and 4) trades are generally not well-defended.

Several benefits accrue from organizing students into commodity fund trading groups using actual money. First, individuals, especially economists, are generally highly motivated by monetary incentives (Carter and Irons). Motivation might need to be curtailed before it has to be encouraged in such an environment. Second, students quickly appreciate the need to develop well-founded trade decisions and to evaluate the decisions *ex post*. Third, by studying and reviewing numerous markets in a group setting, students become exposed to and gain a broader

understanding of how different markets interact with each other, act in distinct manners, and respond to varied stimuli. Of course, other benefits also accrue to students in the actual trading course in that an analysis performed on a commodity market prior to making a verbal trade recommendation to the class is generally of considerable depth (more than most paper trading exercises require). Written and oral presentations/defenses of trade recommendations enhance students' communications skills which survey results indicated rank high as needs for Agricultural graduates (Barkley; Harris; Litzenberg and Schneider). In addition, cooperative learning by students having diverse strengths has been an effective tool to teach economic concepts (Maier and Keenan).

Tierney provided an in-depth discussion regarding the value of experiential learning in Agricultural Economics education. He also detailed how to set up an experiential student education commodity trading pool. The particular course evaluated in this paper evolved from the original course designed by Tierney. This paper is intended to measure empirically student attitudes and learning as a result of their completing such a course.

Course Background

Two commodity futures courses are offered at Kansas State University. One is a traditional futures course similar to those taught at most Agricultural Economics Departments which use a textbook and lecture approach to teaching the basics of commodity futures markets. This course is quite popular among Departmental majors and also serves an important role as a service course to non-majors. The course will be referred to as the "standard futures course" throughout the remainder of this paper. The standard futures course is taught by using a paper-

trading exercise in which students trade their own mock futures accounts using actual market prices, but they do not use money or place actual trades.

The other commodity futures course is a seminar course in which each student invests a nominal amount of their own money ($100 to $300)[1] into a commodity trading pool fund. The class is divided into teams of roughly four students. The teams are required to present at least two formal commodity trade recommendations to the class during the semester. Each team is also required to provide a written trade recommendation which is made available to all students on the day of their trade presentation. The written report is required to contain details of the recommended trade, a summary of the recommendation, and a fundamental and technical analyses of the commodity market being investigated. An example of a written trade recommendation is presented in Appendix A. The written report and the presentation are graded and serve as a significant basis for the student's course grade. Other components of the students' grades include class participation and formal graded reviews of other students' trade recommendations.[2] A course syllabus and a copy of the bylaws of the trading pool are in Appendix B. This course is referred to hereafter as the "experiential futures trading" course.

Once the class has been organized and background lectures have been completed, the typical class meeting consists of one or two students moderating the meeting using a parliamentary

---

[1] Each student invests the same amount of money. Depending upon the number of students participating and the desired amount of capital for liquidity and solvency, the Commodity Futures Trading Commission allows the KSU educational pool to have up to $300 invested per student (Tierney).

[2] Individual students in each group can earn different grades from the average of the group on trade recommendations because of differences in peer evaluations of group members and self-evaluations.

procedure. First order of business is a review of current open positions and consideration of motions to alter open positions. The status of each trade is discussed as well as the cumulative status of the fund balance. Previously recommended trades that are not active can also be brought to the floor for discussion if desired. Following this, a new formal trade recommendation is presented, discussed (often at length), amended if necessary, and voted upon by the group. Approved trades are ordered through a commodity broker. Trade recommendations not approved are open for discussion at future class meetings, but remain dormant unless otherwise brought to the floor for consideration. All group members are expected to participate and graded in the presentation and discussion.

By investing their own money in a fund which makes and monitors actual trades, students discover the efficacy of each trade as well as learn the management of the fund through direct participation. Investing their own money serves as substantial motivation for high levels of performance. In addition, peer pressure for a team to provide accurate and sufficient information and to closely monitor market conditions as they affect active trades, provides responsibility and accountability for individual teams. Teams come to class in a diversity of emotional states ranging from elation due to a profitable trade recommendation to despair because of a trade that is losing money. Often those trades that do not perform as anticipated provide more opportunity for learning than those that perform well. For this reason, the instructor should let the class make "mistakes" (to the extent the entire balance of the fund is not unduly put at risk).[3]

---

[3] Knowing when or if to intervene as an instructor is not always apparent. Questions regarding rules and procedures were addressed immediately. However, trades that had potential to put the fund balance at risk that were approved were more difficult to handle. In this course

The trades made by the experiential futures trading course and the financial results of the speculation for fall semester 1993 are reported in table 1. The initial fund consisted of $4100 ($100 initial investment from each of 40 students enrolled and $100 invested by an instructor).[4] In total, 20 futures positions were entered into from 25 trade recommendations that were approved by the group (the difference represents trades that were ordered but never executed because of a "market order" or "market-if-touched" criteria that was not met). Numerous trade recommendations were not approved by the group.[5] This included both formal scheduled trade recommendations as well as several informal unscheduled impromptu recommendations. Total brokerage commissions were $995 for the semester. The balance of the fund returned to the investors after all positions were closed at semester end was $5574.57. This resulted in a

---

such trades were ordered as approved, but, effort was made by the instructor and broker to monitor the trade and "bail out" if necessary. This was never necessary during the semester.

[4] There are potential tradeoffs regarding whether the instructor should invest in the fund. The instructor must be a general partner in the fund whether an investor or not for accountability. By investing, the instructor provides additional liquidity to the fund as well as gives the students a sense of camaraderie with the instructor. However, if the instructor cannot remain objective regarding trade performances and grades, then money should not be invested by the instructor. That is, a potential conflict of interest is present. A simple regression of trade recommendation grades assigned against profit yielded the following:

$$\text{Grade } (\%) = 88.94 + 0.0004 \text{ Profit } (\$) + \text{random error}$$
$$(0.11)$$
$$\text{R-Squared} = 0.0006, \text{ Observations} = 23, \text{ t-statistic in ( )}.$$

This clearly shows no relation between profit and grade. Grades for trade recommendations were assigned as trades were presented before the profitability of the trade was known.

[5] Exactly how many trade recommendations were not approved was not easy to count. Some trades that were not approved one day were modified and approved another day, numerous impromptu trades were withdrawn by the introducers before formal voting, motions to modify trades (if not wanted by the proposer) could be counted either way, etc.

fortunate increase in student wealth. However, it also sent a signal to some students that making money speculating was easy.

Measuring Student Perceptions

Numerous evaluation tools are often used to measure student perceptions and learning as a result of the experiential trading course. Gosenpud reviews studies that have evaluated experiential learning. He examines changes in cognitive learning, behavioral change, skill development, and attitudinal change. In this study, an analysis of attitudinal changes and student evaluations are used to measure the effectiveness of the experiential futures trading course. In this regard, three instruments were used to collect information from students. During the first day of class, a survey/pretest was administered to all students enrolled in the standard futures course and the experiential trading course. The survey included questions eliciting background information regarding students' profiles and experiences with futures markets. Also included were Likert-scaled questions intended to measure students perceptions and attitudes regarding futures markets. The same survey was administered to both the standard futures course and the experiential course. At the end of the semester, the same survey was administered again to determine the extent of student attitudinal and perception changes. A third measure of student attitudes was ascertained through student evaluations of the course (only evaluations for the experiential futures trading course are presented).

Many students in the experiential futures trading course had already completed the standard futures course. Three students who were enrolled in both courses were removed from the analysis. Of the 40 students enrolled in the actual trading course, 33 useable pre- and post-test surveys were available for analysis (after excluding the three that were in both courses). Of

8

these 33, all but 7 had already completed the standard futures course in previous semesters. Of the 106 students who completed the standard futures course, 53 useable surveys were completed.

The survey was intended to measure student attitudinal changes in three broad areas: 1) understanding of futures markets, 2) skepticism toward futures markets, and 3) perceptions regarding risks associated with commodity futures trading. The two courses were surveyed for several reasons. First, the standard futures course is an introductory course to futures markets. As noted earlier this course uses a paper-trading exercise to give students the opportunity to "trade" the market without risking actual money. Students in the experiential futures trading course were expected to have futures market knowledge prior to enrolling in the course. In this regard, the students in the standard futures course generally started at a lower level of futures market knowledge and experience. Examining attitudinal changes for students from both courses allows for comparison of the degree to which change in attitudes resulted from the two different courses. However, self-selection bias of students enrolled in the experiential futures trading course could make comparisons across the two courses difficult to generalize.

Results of Student Surveys

The distributions of attitudes regarding futures markets of students in the standard futures class are presented in table 2. Recall that these students had little, if any, futures market experience. Student attitudes changed significantly during the semester. In the pretest, 42% agreed or strongly agreed that they understood factors affecting commodity prices whereas, in the post test, 85% of the students placed themselves in these categories. Even larger changes were apparent in student confidence regarding whether they knew how to trade commodity futures, with only 15% agreeing or strongly agreeing in the pretest but 81% at least agreeing

in the post test. As might be expected, many students who had little prior futures knowledge at the time of the pretest responded with "Don't Know" answers. By the time of the post test, they had formed opinions. Students tended to be less skeptical of futures markets following completion of the course. In the pretest only 24% of the students felt that speculators did not manipulate futures markets whereas this increased to 51% in the post test. Many students gained a better understanding of the risks associated with trading commodity futures markets.

Pretest and post test results for the experiential futures trading course are reported in table 3. Students in this course were somewhat familiar with futures markets in that they had completed the standard futures course or some similar course. Despite this past experience, the futures trading experience changed student attitudes significantly, although not as extensively as did the standard futures course. Only 12% of the students felt that they knew how to trade commodity futures in the pretest, 88% felt that they did in the post test. Similar improvements in students feeling comfortable setting up an account with a broker were realized. Unlike students in the standard futures course, student attitudes regarding futures market skepticism were not changed in the experiential futures trading course. These students started with moderate preconceptions that speculators and large traders manipulate futures markets with over 50% of the students feeling this way. After a semester of trading futures markets these students as a group maintained their skepticism. Why this was the case is not clear other than the fact that nothing noteworthy happened in the markets during this time to sway student opinions or the students' beliefs regarding futures markets were deeply entrenched and not readily changed. In terms of risk perceptions, the primary change in attitudes was in terms of students increasing their understanding of the risks associated with spread trades. Only 12% of the students felt that

spread trades were as risky as simple buy/sell trades in the pretest. However, 51% felt this way in the post test. Several spread trades were made by the class (table 1), so they had first-hand experience with these types of orders.

Statistical tests of the distributions of student perceptions between the standard and experiential futures trading courses are presented in table 4. The first column of statistics reports the comparison of the pretest perceptions of the students in the experiential futures course with the post test of students in the standard futures course. The expectation was that, with the exception of self-selection bias of those students enrolled in each class, these distributions would represent those with similar futures experiences (i.e., students who had completed the standard futures course, but not the experiential trading course). Some differences in the two groups were present. One area that was particularly different between the two groups was knowledge of how to trade futures and level of comfort with setting up a brokerage account. Students in the experiential trading course started with less comfort with this than students who had just finished the standard futures course. The other area of difference between the two groups of students was an understanding of the ability to control risk when trading futures. A larger percentage of students in the experiential trading course entered the course with the perception that risk could be controlled. This may be self-fulfilling in that the students enrolled in the actual trading course would not expect such a course to be offered if risks were completely unmanageable. The remaining attitudes amongst students in the two classes, at approximately the same level of experience (pretest for the actual course and post test for the standard course), were not statistically different.

The last two columns of table 4 report the Chi-squared statistics testing for differences in the distributions of the students from the two courses in the pretest and post test. Statistical differences were present across the distributions of the two courses in both the pretest and post test. These results indicate that the experiential futures trading course is useful for teaching students about working with a broker and understanding risks associated with futures market trading. This makes sense because the latter issue is one that is quite difficult to teach. That is, the standard futures course with the paper-trading simulation appears to be successful at helping students understand futures markets. However, to really understand and appreciate the tension that having actual money tied up in these markets creates, one has to experience this. The experiential course is therefore more effective at conveying this type of understanding. Students who completed the actual trading course understood from first-hand experience how to manage risk. Students spent considerable class time on strategies of setting stop-loss levels, trailing stops, loss minimization strategies, price and profit targets, timing of trades, and impacts of a trade on the entire portfolio risk.

The final measurement of the impact of the experiential trading course on learning is obtained from student evaluations of the course (table 5). Students overwhelmingly reported that the course had very current subject matter, that the course content was valuable to their area of interest, and that the breadth of the course helped them see related fields. About 40% of the students felt that the course was relatively difficult. Eighty-four percent of the students rated the overall course as "Excellent" and 100% of the students indicated that they would recommend the course to others. These student evaluations indicate that the students as a whole felt that the experiential course was valuable and worthwhile. Numerous written comments were also

collected from student evaluations. The most common comments included appreciation of 1) the "hands-on experience" offered in the course, 2) the use of own money and real trades, 3) students actively participating in the management of the fund and in making trade recommendations, and 4) opportunity to interact with faculty and students to make trade decisions. Recommendations for improvement included 1) relaxing bylaws to allow trades to occur without entire class voting, 2) formal class should meet for more than two hours and more than twice per week, and 3) insisting on greater variety of trading strategies than simple buy/sell orders.

With all the benefits that have been noted with the experiential futures trading course, a few potential drawbacks should be considered. First, there is a risk that the entire fund could become bankrupt prior to semester end. Two problems arise from this possibility: 1) the instructor needs to have a contingency plan of how to deal with a fund that could have a negative balance, 2) the instructor would need to determine what to do with the rest of the semester. Second, time commitment by the instructor outside of class to help coach and serve as a consultant to students is substantial. Third, the course costs students the initial investment (of which some proportion will hopefully be returned at semester end) which can deter students from enrolling. Finally, "wrong" signals can end up being sent purely by chance. For example, students may make money on an uninformed and otherwise poorly conceived trade. Alternatively, they may lose money on a well-informed and comprehensively researched trade. If students do not accurately reflect on these possibilities, the wrong message can result. An instructor needs to be cognizant of this and help make certain that the class as a whole correctly evaluates past trades.

Concluding Comments

Experiential, active learning activities can significantly enhance student understanding of economics. Agricultural Economics and Agribusiness graduates need to be able to apply analytical economics to solve problems. To accomplish this requires learning how to transfer knowledge and concepts into information to make informed decisions. Often decisions in the volatile business environment must be made rapidly with limited information. A student educational trading fund creates an environment for students to experience these activities and apply their skills to decision making. Motivation is high when actual money is on the line and mutual interdependence among trading groups provides peer pressure and accountability.

Standard futures courses are effective at teaching principles of futures markets and helping students become familiar with how these markets operate. Experiential trading of commodities provides opportunities to enhance students written and verbal communication skills as well as apply economic concepts to market analyses. Using actual money instills significant student motivation and an appreciation for inherent risks of trading commodity futures. Student responses to the course have been positive and employers have looked favorably on student participation in the course. This course is an effective and valuable component of the Agricultural Economics curriculum.

References

Babb, E.M. "Agribusiness Simulators for Management Training." *Southern Journal of Agricultural Economics* 17(1985):193-197.

Barkley, A.P. "Kansas State Survey: What Skills Do Graduates Need?" *National Agricultural College Teachers Association Journal* 35(1991):53-57.

Burns, A.C. "The Use of Live Case Studies in Business Education: Pros, Cons, and Guidelines." *Guide to Business Gaming and Experiential Learning,* J.W. Gentry ed., East Brunswick: Nichols/GP Publishing, 1990, pp. 201-215.

Carter, J.R. and M.D. Irons. "Are Economists Different, and If So, Why?" *Journal of Economic Perspectives* 5(1991):171-177.

Dahlgran, R.A. "Management Simulates: A Tool for Fostering Experience-Based Learning of Agribusiness Management Concepts." *Agribusiness* 3(1087):403-412.

Dahlgran, R.A. "Using Simulation to Teach Agribusiness Management and Managerial Decision-Making Skills." *Computers and Electronics in Agriculture* 1(1986):143-150.

Gentry, J.W. "What is Experiential Learning." *Guide to Business Gaming and Experiential Learning,* J.W. Gentry Ed., East Brunswick: Nichols/GP Publishing, 1990, pp. 9-20.

Gosenpud, J. "Evaluation of Experiential Learning." *Guide to Business Gaming and Experiential Learning,* J.W. Gentry ed., East Brunswick: Nichols/GP Publishing, 1990, pp. 301-329.

Kolb, D.A. *Experiential Learning,* Englewood Cliffs, NJ: Prentice Hall, 1984.

Harris, K. "An Assessment of Skills and Characteristics Needed by Undergraduates Choosing a Career in Agricultural Sales." Paper presented at the Southern Agricultural Economics Association Annual Meetings, Nashville, TN, February 5-8, 1989.

Hutchings, P. and A. Wutzdorff, eds. *Knowing and Doing: Learning Through Experience,* San Francisco: Jossey-Bass Inc., 1988.

Litzenberg, K.K. and V.E. Schneider. "AGRI-MASS Agribusiness Management Aptitude and Skills Survey." Agribusiness Education Project, Washington, D.C.; April 1987.

Lovelock, C.H. "Teaching with Cases." *Experiential and Simulation Techniques for Teaching Adults* L.H. Lewis ed., Jossey-Bass Inc.: San Francisco, 1986, pp.25-35.

Maier, M.H. and D. Keenan. "Teaching Tools Cooperative in Economics." *Economic Inquiry* 32(1994):358-361.

Tierney, W.I. Jr. "Students Form Commodity Pool to Learn About the Futures Market." *North Central Journal of Agricultural Economics* 11(1989):289-296.

Table 1. Summary Report of all Approved Trades During the Semester for the Experiential Futures Trading Course.

Date Order Placed	Date Order Traded	Date Position Closed	Commodity	Type of Trade	Contract Size	Price Placed	Price Closed	Stop Out	Brok. Comm.	NFA Fee	Net Profit
09-08-93	09-08-93	10-08-93	Wheat	Buy DEC	1000 bu.	$ 3.12	$ 3.25	No	$ 25.00	$0.08	$ 109.92
09-08-93	09-08-93	11-16-93	Soybeans	Buy 6.50 JAN Call	1000 bu.	$ 0.28	$ 0.40	No	$ 25.00	$0.04	$ 99.96
09-10-93	never	na	Fdr Catl	Mkt Order Sell DEC	500 cwt						
09-16-93	10-04-93	10-15-93	Soybeans	Mkt Order Buy NOV	1000 bu.	$ 6.07	$ 6.16	No	$ 25.00	$0.08	$ 67.42
09-16-93	never	na	Soybeans	Mkt Order Buy NOV	1000 bu.						
09-22-93	09-22-93	09-29-93	Kilo Gold	Buy DEC	32.15oz.	$ 357.00	$ 352.00	Yes	$ 60.00	$0.24	$ (220.99)
10-05-93	never	na	Live Hogs	Mkt Order Sell DEC	200 cwt						
10-05-93	10-05-93	10-08-93	Cocoa	Sell DEC	10 mt	$1207.00	$1128.00	No	$ 70.00	$0.24	$ 719.76
10-08-93	10-12-93	10-27-93	Live Hogs	Mkt Order Sell DEC	200 cwt	$ 51.00	$ 48.55	No	$ 30.00	$0.24	$ 459.76
10-08-93	never	na	Cotton	Mkt Order Buy DEC	500 cwt						
10-13-93	10-13-93	11-05-93	Soybeans	Buy JAN	1000 bu.	$ 6.24	$ 6.41	No	$ 25.00	$0.08	$ 142.42
10-13-93	10-13-93	11-28-93	Corn	Buy DEC	1000 bu.	$ 2.48	$ 2.79	No	$ 25.00	$0.08	$ 279.92
10-20-93	10-20-93	10-27-93	Spread	Buy DEC Cattle	400 cwt	$ 74.60	$ 73.88	No	$ 35.00	$0.24	
			Cat/Hog	Sell DEC Hogs	400 cwt	$ 49.70	$ 48.00	No	$ 35.00	$0.24	$ 319.52
10-22-93	10-22-93	12-03-93	Spread	Buy MAR	5000 bu.	$ 3.31	$ 3.64	No	$ 37.50	$0.24	
			Wheat	Sell JUL	5000 bu.	$ 3.10	$ 3.26	No	$ 37.50	$0.24	$ 737.02
11-03-93	11-03-93	11-04-93	Diam Phos	Buy MAR	100 ton	$ 133.80	$ 132.00	Yes	$ 60.00	$0.24	$ (240.24)
10-29-93	10-29-93	11-05-93	Spread	Sell DEC Cattle	400 cwt	$ 73.75	$ 73.25	No	$ 47.50	$0.24	$ 152.26
		11-03-93	Cat/Hog	Buy DEC Hogs	400 cwt	$ 48.65	$ 48.45	No	$ 47.50	$0.24	$ (127.74)
11-05-93	11-09-93	11-10-93	Live Hogs	Mkt Order Sell DEC	400 cwt	$ 46.50	$ 46.20	No	$ 60.00	$0.24	$ 59.76
11-05-93	never	na	Live Hogs	Mkt Order Buy DEC	400 cwt						
11-10-93	11-10-93	11-18-93	Corn	Buy 2.50 DEC Call	5000 bu.	$ 0.33	$ 0.34	No	$ 60.00	$0.28	$ (10.28)
11-12-93	11-12-93	12-03-93	Fdr Cattl	Buy 84 JAN Call	500 cwt	$ 0.90	$ 0.25	No	$ 60.00	$0.28	$ (385.28)
11-12-93	11-12-93	11-18-93	Silver	Sell DEC	1000 oz.	$ 457.00	$ 465.00	Yes	$ 50.00	$0.24	$ (130.24)
11-12-93	11-12-93	11-19-93	Spread	Buy MAR	1000 bu.	$ 2.83	$ 2.88	No	$ 20.00	$0.08	
			Corn	Sell DEC '94	1000 bu.	$ 2.60	$ 2.58	No	$ 20.00	$0.08	$ 32.34
11-16-93	11-16-93	11-19-93	Live Hogs	Sell DEC	400 cwt	$ 45.50	$ 45.70	No	$ 60.00	$0.24	$ (140.24)
11-19-93	11-19-93	11-19-93	Liv Cattl	Buy DEC	200 cwt	$ 73.80	$ 73.30	Yes	$ 30.00	$0.24	$ (130.24)
11-19-93	11-19-93	11-19-93	Cocoa	Buy DEC	10 mt	$1218.00	$1245.00	Yes	$ 50.00	$0.24	$ (320.24)
								Totals	$ 995.00	$4.68	$1,474.57
								Total Initial Investment			$4,100.00
								Liquidation Value after closing positions 12-03-93			$5,574.57
								Money Returned Per Person ($100 Invested)			$ 135.97

Table 2. Distributions of Attitudes of Students in Standard Futures Course.

Statement	Time	Strongly Agree	Agree	Indifferent	Disagree	Strongly Disagree	Don't Know	X²
Futures Understanding:				------------- % -------------				
You understand factors affecting	Pretest	4	38	11	23	2	23	25.5
commodity prices	Post test	11	74	8	8	0	0	(0.00)[a]
You know how to trade	Pretest	4	11	21	17	4	43	48.4
commodity futures	Post test	13	68	8	6	2	4	(0.00)
You are comfortable setting up	Pretest	2	15	28	13	6	36	26.9
a trading account with a broker	Post test	0	49	28	13	8	2	(0.00)
Compared to others in this class you have	Pretest	2	8	28	23	11	28	24.3
a better understanding of commodity markets	Post test	4	21	55	17	2	2	(0.00)
Futures Skepticism:								
Speculators manipulate futures	Pretest	13	25	25	13	11	21	19.2
markets	Post test	9	26	9	40	11	4	(0.00)
Futures prices are not significantly	Pretest	4	6	6	34	26	25	18.6
influenced by large traders	Post test	0	13	13	57	13	4	(0.00)
Futures Risk Perceptions:								
Commodity market speculation	Pretest	13	49	19	15	0	4	17.1
is risky	Post test	40	51	8	0	2	0	(0.00)
Spread trades are as risky	Pretest	0	17	26	6	2	49	24.4
as simple buy/sell trades	Post test	9	45	19	11	2	13	(0.00)
Level of risk exposure when trading	Pretest	8	53	17	2	0	21	10.3
futures can be controlled	Post test	4	62	21	8	2	4	(0.08)
Making profits speculating	Pretest	2	28	23	25	0	23	20.4
in commodities is difficult	Post test	9	53	17	19	2	0	(0.00)

[a] Significance level of X² statistic reported in parentheses. X² statistic is for test of null hypothesis that the pretest and post test distributions are equal.

Table 3. Distributions of Attitudes of Students in Experiential Futures Trading Course.

Statement	Time	Strongly Agree	Agree	Indifferent	Disagree	Strongly Disagree	Don't Know	X^2
Futures Understanding:		------------- % -------------						
You understand factors affecting	Pretest	6	61	24	6	3	0	6.4
commodity prices	Post test	22	65	9	3	0	0	(0.17)[a]
You know how to trade	Pretest	0	12	42	21	12	12	39.2
commodity futures	Post test	21	67	6	6	0	0	(0.00)
You are comfortable setting up	Pretest	6	15	9	48	12	9	35.5
a trading account with a broker	Post test	21	58	21	0	0	0	(0.00)
Compared to others in this class you have	Pretest	0	18	42	21	0	12	12.0
a better understanding of commodity markets	Post test	6	55	12	24	6	0	(0.04)
Futures Skepticism:								
Speculators manipulate futures	Pretest	9	42	6	30	9	3	1.6
markets	Post test	6	45	9	27	12	0	(0.90)
Futures prices are not significantly	Pretest	3	12	9	45	27	3	2.4
influenced by large traders	Post test	6	12	6	52	30	0	(0.80)
Futures Risk Perceptions:								
Commodity market speculation	Pretest	18	55	21	6	0	0	5.4
is risky	Post test	42	45	9	3	0	0	(0.14)
Spread trades are as risky	Pretest	6	6	21	21	3	42	25.2
as simple buy/sell trades	Post test	24	27	9	30	9	0	(0.00)
Level of risk exposure when trading	Pretest	21	67	3	0	0	9	6.6
futures can be controlled	Post test	45	52	3	0	0	0	(0.09)
Making profits speculating	Pretest	3	55	18	18	0	6	4.0
in commodities is difficult	Post test	6	55	12	24	3	0	(0.55)

[a] Significance level of X^2 statistic reported in parentheses. X^2 statistic is for test of null hypothesis that the pretest and post test distributions are equal.

Table 4. Chi-Squared Test Comparing Distributions of Student Attitudes between Experiential Futures Trading Course and Standard Futures Course.

Statement	Pre- and Post Test[a]	Pretest	Post Test
Futures Understanding:			
You understand factors affecting commodity prices	5.0 (0.17)	15.6 (0.01)[b]	2.4 (0.50)[b]
You know how to trade commodity futures	31.8 (0.00)	13.1 (0.02)	2.7 (0.74)
You are comfortable setting up a trading account with a broker	16.8 (0.01)	20.8 (0.00)	19.4 (0.00)
Compared to others in this class you have a better understanding of commodity markets	4.9 (0.43)	6.8 (0.23)	4.5 (0.49)
Futures Skepticism:			
Speculators manipulate futures markets	2.8 (0.74)	14.9 (0.01)	4.6 (0.46)
Futures prices are not significantly influenced by large traders	6.1 (0.29)	7.90 (0.16)	5.4 (0.25)
Futures Risk Perceptions:			
Commodity market speculation is risky	3.8 (0.29)	3.2 (0.5)	0.3 (0.95)
Spread trades are as risky as simple buy/sell trades	12.8 (0.03)	9.9 (0.08)	16.5 (0.01)
Level of risk exposure when trading futures can be controlled	16.3 (0.01)	9.4 (0.05)	27.2 (0.00)
Making profits speculating in commodities is difficult	1.4 (0.84)	7.8 (0.10)	1.0 (0.91)

[a] Comparison of pretest for students enrolled in experiential trading course who had completed standard futures course with post test of those in standard futures course.

[b] Significance level of X^2 statistic reported in parentheses.

Table 5. Student Evaluation Summary of Experiential Futures Trading Course.

Topic	Excellent	Very Good	Good	Fair	Poor
			------ % ------		
Currentness of Subject	87	10	3	0	0
Value of Course Content	84	16	0	0	0
Level of Difficulty (Excellent=Difficult to Poor=Easy)	6	33	61	0	0
Helped Student See Related Fields	68	18	14	0	0
Overall Course Rating	84	9	6	0	0
Would Recommend Course to Others	Yes: 100%	No: 0%			

Under "Student Ranking" heading spanning all columns.

Appendix A: Example Written Trade Reccomendation

DECEMBER CORN FUTURES TRADE RECOMMENDATION
September 28, 1993

Recommendation: Buy a December Corn Futures Mini-Contract after the open on September 29th with a stop loss order at $2.37 1/2.

Objective: To take advantage of profits in a potential temporary rally in price due to inclement weather and possible corn quality problems.

Contract Information:

Size:	1,000 bu.
Initial Margin:	$135
Maintenance Margin:	$100
Commission:	$25
Maximum Profit:	$145
Maximum Loss:	$80

Current Market:

Open:	$2.450
High:	$2.456
Low:	$2.426
Close:	$2.432
Volume:	45,113
Open Interest:	168,986

Summary: Uncertain harvest conditions and crop quality provide a basis to continue the upward rally in the corn market until conditions become more clear. Technical analysis provides support to the fundamentals for a bullish move.

Fundamentals: The corn market trended down through mid-September, where it may have reached an early seasonal low. The USDA Crop Production Report released on September 9 lowered corn production estimate to 7.229 billion bushels, based on a national yield average of 113.1 bushels per acre on 63.9 million harvested acres. This was a 3% reduction in total production from the previous month and a 24% decline from last year's harvested crop. These numbers can still change in upcoming reports, with the next crop production report coming out on Tuesday, October 12. If harvest is delayed like it was last year, it could be December before the actual acreage harvested and yield can be confirmed.

The forecasted freeze for later this week may damage the crop and cause uneven maturity to surface. As a result, some corn acreage will be chopped for silage and other acres harvested as field corn will be of poor quality. Abandoned acres will likely increase with a late fall harvest. We feel that frost will play a key role in the near future, however rain will also play a very significant role in causing possible harvest delays. In fact, in the past week, John Deere reports an increase in the sales in Illinois of rear assist drives for combines. This is an indication that farmers expect wet harvest conditions.

As shown in Figures 1 and 2, in the crop progress report released September 27, the 17 state average indicated that the corn crop is 40% mature with 50% of the crop classified as being in fair to very poor condition. The 17 states included in this average produced 94% of the corn crop in 1992. Iowa and Minnesota, which account for approximately 30% of total production, both have over 80% of their crop in fair to very poor condition. This compares with only 20% of the crop being in this range at this time last year. Only 40% of the crop is mature in the 17 state region, which compares with a 5 year average of 70%. The National Weather Service forecasts a frost to occur this week in these states where the maturity is behind schedule and conditions are poor. Regardless of whether this frost occurs, there is still a great amount of uncertainty as to the quality and harvestability of the crop.

Additionally, this year presents one of the worst European Corn Bore infestations in a long time. This causes lodging, making the need to get the crop out as soon as possible even more urgent.

On the demand side of the market, the numbers of the cattle and hogs are up, providing a stable demand for feed. Corn is an important ingredient in most feeding rations.

Fundamentally, this is a supply oriented market due to questionable availability of deliverable No. 2 corn. The late maturing corn crop throughout the western Corn Belt, when combined with prospects of bad weather and poor quality, provides the basis for a bullish rally due to uncertainty surrounding harvest yields and quality conditions.

Technicals: Technical analysis is a tool used to determine the direction of a trend, spot and predict changes in price trends, and to aid in timing of entry and exit decisions. A common notion is to buy the rumor, sell the fact.

In evaluating the December Daily Corn chart in Figure 3, strong support was found at the $2.32 1/2 level. A break in this support would likely fill the chart gap at $2.29. However, the market has been moving in a strong upward channel since the first of September. Many feel that the market reached its seasonal low early on September 7th at $2.32 1/2. It has been driven upward since then due to uncertain weather and harvest conditions.

Following gap theory, the gap created at $2.39 1/2 to $2.40 is a breakaway gap that signals a move upward. The second gap at $2.46 3/4 to 2.47 is a measuring gap which often signals 50% of a move. This would project a market goal of $2.60 which would test contract high levels. This is a very optimistic projection but should harvest conditions severely deteriorate, we could test and break through these levels. There is the possibility that the market may come back down and fill the gap at $2.39 and find support there before continuing back up because most gaps provide a support plane once filled.

Fibonacci retracements are another way of determining target levels where the market may move and find support. Fibonacci developed a number series and determined that markets often retrace 38%, 50%, or 62%. He found that 62% is the most common retracement level. The market will often make a correction of a move by retracing back and finding a support level before moving ahead in the trend direction. A 62% retracement of the downward move from contract highs occurs at $2.49. This retracement level has provided a resistance plane near the $2.49 level. Further, a 62% retracement of the current uptrend occurs at $2.39 which is also the location of the breakaway gap. This provides evidence that if the market fills the gap it will find support at the $2.39 level as it corrects for a move upward.

Finally, the Elliot Wave Principle is based on the Law of Alternation. Elliot said that the markets move up in waves of five and down in waves of three. Legs two and four are corrections that occur as the market moves. In the current December chart as seen in Figure 3, we are possibly seeing the formation of leg two in the corrections seen in the last two days. Again, a continuation of the wave would project the market back up into the $2.50 to $2.60 trading range before the market trends down.

In conclusion, gap theory, Fibonacci retracements, and the Elliot Wave Principle point the market back up into the $2.50 to $2.60 trading range. Should the fundamental problems involving harvesting and crop quality conditions continue to worsen, additional support is given to move the market up into this higher trading range. Once these conditions become more clear with time and harvest, we then expect to see the market trend back to seasonal levels.

Hazards: * Should weather conditions be ideal throughout the rest of harvest, the potential is high for the market price going back down to test the contract lows.

* A large portion of this year's wheat is of feed quality and will compete against corn for feedlot use.

* USDA lowered the corn export number by another 75 million bushels to 1.4 billion bushel, the lowest it has been since 1985.

* The market could go back down to fill the gap at the $2.39 to $2.40 level and upon finding no support, continue to fall to lower levels.

Prepared by: Carol Snyder
Brenda Moore
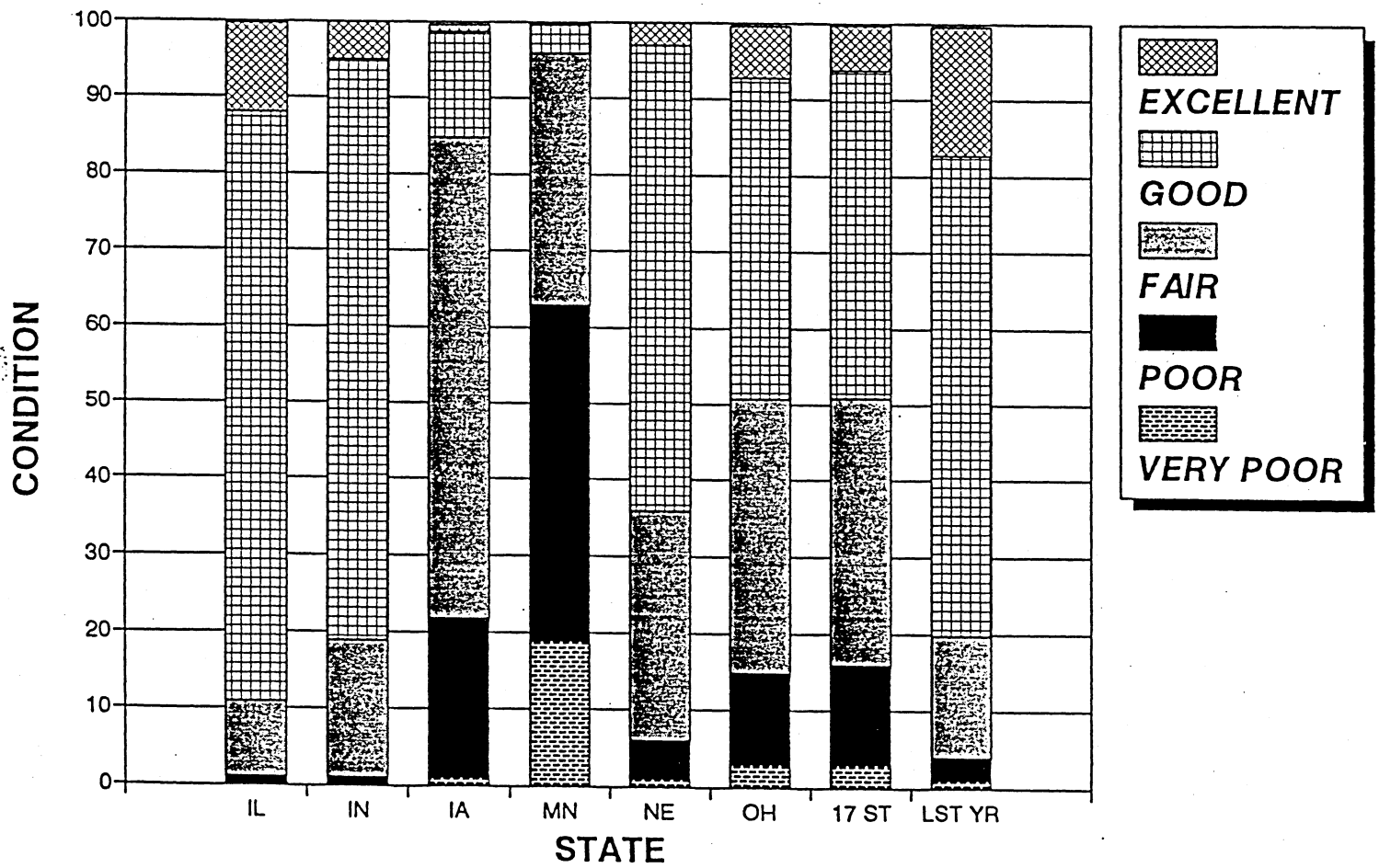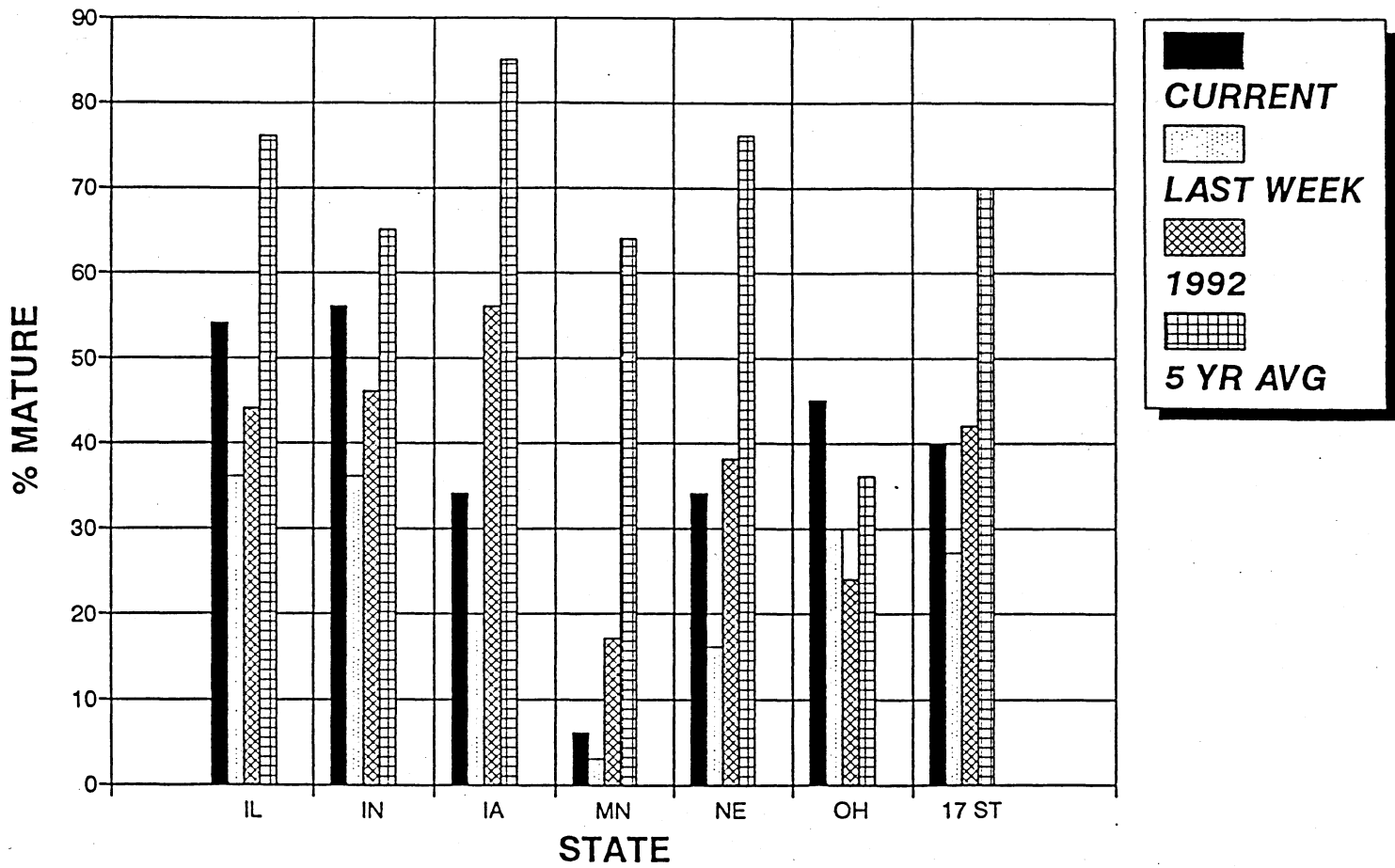Nicole Klein

Figure 1 -- Corn Progress as of 9/27/93

Figure 2 -- Corn Progress as of 9/27/93
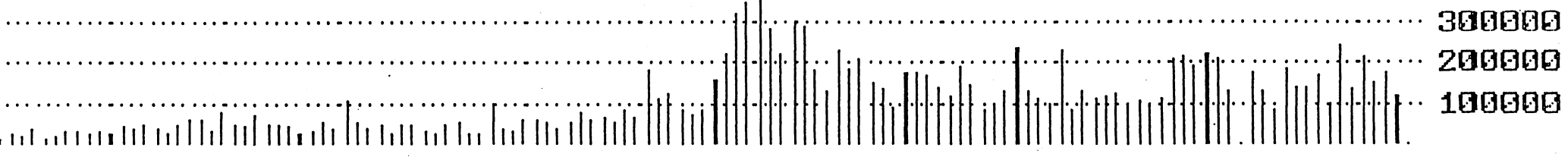
Tuesday, September 28, 1993 at 8:05am

7/7/93 Contract High 2.600

cember 93 Daily Corn   09/27/93

```
................................................................................ 2600
                                  |
                                  |
................................................................................ 2560
                                  ||
                                ..........................................  upward
................................................................................ 2520  channell
                                                              2480
................................................................................ 2480
                                                              2440
................................................................................ 2440
                                                              2400
................................................................................ 2400
                                                              2360
................................................................................ 2360
                 Support                                      2320
................................................................................ 2320
                                                              2280
................................................................................ 2280
```

6/14/93   Contract Low 2.252

ume: 0

```
................................................................................ 300000
................................................................................ 200000
................................................................................ 100000
```

04/05   04/26   05/17   06/07   06/28   07/19   08/09   08/30   09/27

Agricultural Economics 620
Commodity Futures/Options Trading Seminar

Course Objectives:

This course is a seminar course for which instructors primarily serve as facilitators and organizers (and to a lesser extent lecturers). Students will learn components of trade recommendations. In particular students will be expected to be able to effectively:

1) Write, verbally present, and defend trade recommendations.

2) Critically evaluate and question trade recommendations of others.

3) Critically evaluate own trade recommendations (both analysis completed and verbal presentation).

4) Understand how to monitor financial status of open market positions.

5) Understand price risk faced by speculative positions and be able to distinguish levels of potential return and price risks across different trades or commodities.

6) Know alternative means of limiting risk in commodity futures and options trading.

Students will be contributing members of an Educational Marketing Club. All trades must be approved by a majority of students attending each session. Students will be introduced to principles of price forecasting using technical and fundamental analysis and will study a variety of trading strategies. Hedging as a risk management tool will be discussed. However, all trades executed by the Club will be <u>speculative</u>.

Course Grades:

Trade Recommendations	60%
Critical Reviews of Trades	25%
Class Participation	15%

Attendance will be taken at each class meeting. This will count in your class participation. Each class period missed without prior notice with instructor will result in a 10% reduction in class participation score. Class participation will also be a function of in-class discussion.

Plagiarism and cheating are serious offenses and may be punished by failure on the exam, paper, or project, failure in the course and/or expulsion from the university. For more information refer to the academic dishonesty policy in Inside KSU.

Kansas State University Educational Marketing Club By-Laws: Fall 1993

1. Kansas State University Education Marketing Club is a commodity pool organized by seminar participants of AGEC 620 for the purpose of learning how to trade commodity futures and options.

2. The pool operator is the course instructor.

3. The pool operator will hold all funds collected by the pool, will execute trades approved by the pool with broker, will keep records of pool transactions, and will be responsible for disbursing pool funds at the end of the seminar.

4. All seminar participants are encouraged to contribute $100 to the pool fund. Only contributing participants are permitted to vote for approval or rejection of trade recommendations.

5. Flat trades (short or long) that involve regular sized (e.g., 5,000 bushel, 40,000 lbs., etc.) contracts, some mini contracts, and writing (selling) options will not be considered unless the instructor approves the recommendation. The pool's trades will be limited to mini-futures, the purchase of options, and spreads of mini-futures contracts. Some other spreads may be considered if margins are not excessive.

6. All trades made on behalf of the Club must be approved by the majority of students present when the trade is being considered by the group.

7. The pool's operations will comply with terms and conditions imposed by the Commodity Futures Trading Commission (CFTC) as per letter from CFTC dated 9/27/87.

29 p.