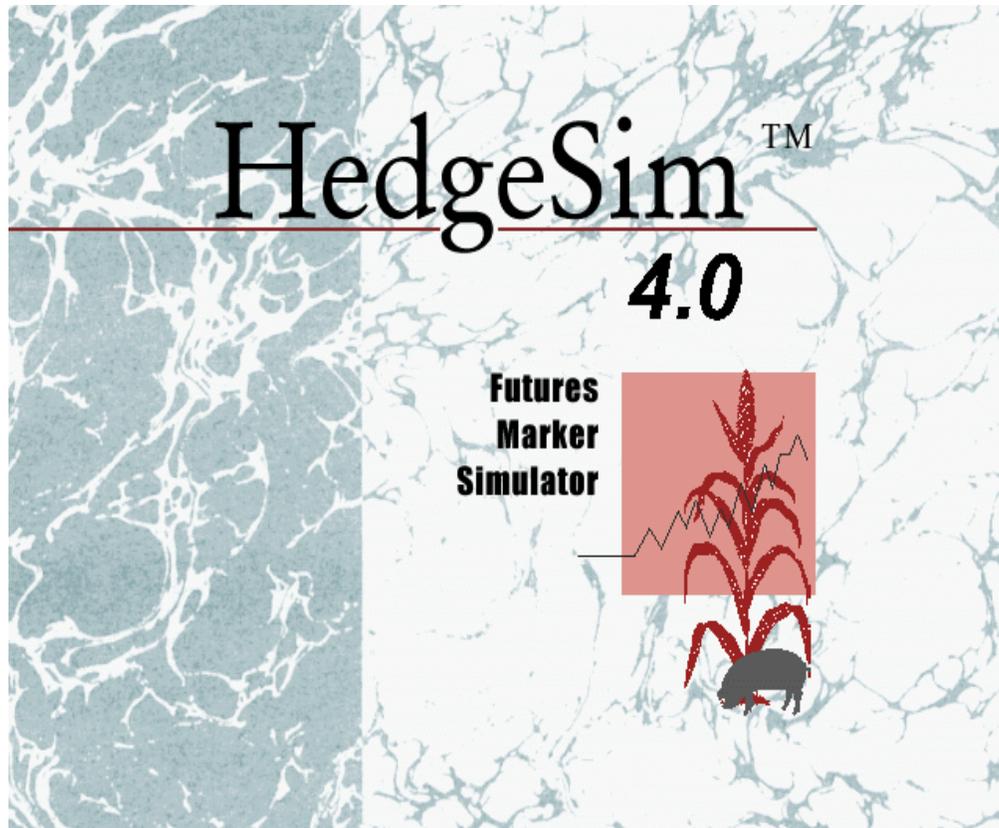


# User's Guide for HedgeSim™ 4.0



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# 1. Overview

## 1.1 Introduction to HedgeSim™ 4.0

HedgeSim™ 4.0 is a computerized simulation commodity marketing program designed for users to practice the application of risk management strategies to alternative farming units. This educational software package supports historical daily prices for grains and livestock. It can be used by educators, students, producers, extension agents, traders, marketing agencies, processors, marketing clubs and farm managers. Once installed on your hard drive, or in a Local Area Network, HedgeSim™ 4.0 can be used as often and frequently as desired by one or several persons.

HedgeSim™ 4.0 allows users to learn marketing and pricing strategies effectively through hands-on experience simulating the real world. The user of HedgeSim™ 4.0 manages either a grain farm for corn, wheat or soybeans, or a livestock feeding operation for hogs or cattle. The user can forward price produce throughout a marketing season using futures and options, and sell cash produce at the end of the season. The practitioner is given an expected production level, reasonable production costs, periodic government reports, and actual historical daily prices.

HedgeSim™ 4.0 utilizes daily cash, futures and options prices for five agricultural commodities from 1980-1999. Each production year for each commodity is a separate event. The user first decides to trade in either grains or livestock, the computer then randomly selects the individual commodity and marketing year for the simulation experience. The user is presented with two months of historical data at the beginning of the production period and relevant government reports. After reviewing this information the user can proceed one day at a time through the production and marketing year, making appropriate and reasonable pricing and marketing decisions. The individual simulation experience is completed when the user markets the cash product at the end of that year's marketing season.

The software provides graphs of the daily cash and futures prices at all times, and presents an easy-to-use format for transacting trades by clicking the mouse. Daily basis patterns can be viewed graphically for any one of multiple futures contracts.

HedgeSim™ 4.0 keeps accurate record of the user's trading account, marking-to-market futures and options trades daily. Margin calls are made in a realistic fashion. Past trades and current market positions can be checked with a click of the mouse. Realized and unrealized gains and losses are available daily. For the instructor with classroom students, printouts reporting individual trading activities are available in order to review a student's activities.

HedgeSim™ 4.0 is a simple-to-use software package. It is dynamic and realistic. It provides an opportunity to learn about futures and options markets without the risks of being in the real markets. HedgeSim™ 4.0 is an educational tool that simulates real world conditions accurately. It requires little prior knowledge about futures and options markets, and hence can be used by novices and experts. It is an ideal program for training novices about risk management strategies and practices, and for allowing experienced traders to review past procedures.

## 1.2 History and Potential Use of HedgeSim™ 4.0

HedgeSim™ 4.0 was developed and is supported by the Office for Futures and Options Research (OFOR) at the University of Illinois at Urbana-Champaign. This program was designed under the direction of Professor Raymond M. Leuthold, Director Emeritus of OFOR, and Dr. Mark Manfredo, former Bielfeldt Scholar in OFOR.

Programming support was provided in part by the Educational Technologies Assistance Group, Office of Instructional Resources, University of Illinois at Urbana-Champaign. Version 1.0 was programmed by Scott Johnson. Versions 2.0 and 3.0 were programmed by Jake Keklikian and Brian Pianfetti. Modifications in Version 4.0 were programmed by Youngihn Kho. Project management was provided by Rick Langlois. The original concept, name, and structure were provided by Michael Hudson and Don Meyer.

The various versions of HedgeSim™ have been tested by hundreds of University of Illinois students in classroom use. Their comments and feedback provided valuable input into modifications to make this simulation program easy-to-use and educational. Their assistance is appreciated.

HedgeSim™ 4.0 can be used by many individuals and groups for education and practice in risk management. It can be loaded into a Local Area Network and used in a computer lab for instructional purposes. (**NOTE:** the instructor can override the randomization feature and have all students in the lab on the same commodity and year.) Not only can this program be used in college or university environments, but it is ideal for extension agents and brokerage or marketing agencies in instructing potential users, traders and clients. It could also be valuable to marketing clubs.

Most users of HedgeSim™ 4.0 will be individual students and practitioners who wish to train themselves on their own computers and practice their risk management strategies under various marketing scenarios. The program can be loaded on an individual computer hard drive and the simulation run again and again. A large audience for whom this software is especially designed is the producers of corn, wheat, soybeans, fed cattle and hogs. With data from 1980-1999, there are multiple opportunities to practice and experiment.

## 2. Installing HedgeSim™ 4.0 on Your Computer

### 2.1 System Requirements

Minimum platform: 486/66 with 16 megabytes of RAM and 25 MB free disc space.  
Operating system: Windows 95/98/ME/NT/2000/XP

### 2.2 Installation

Installation of HedgeSim™ 4.0 is easy and straightforward.

- (1) Run **setup.exe**  
- If you have HedgeSim™ 4.0 CD-Rom, then you will find **setup.exe** under **Install/** directory.

- If you download HedgeSim™ 4.0 package (HedgeSim™ 4.0 zip), then you should first unzip it into a temporary folder. Then you will find **setup.exe** file in the directory.
- (2) Follow the on-screen installation instruction.
- (3) Run HedgeSim™ 4.0 once to install data files. HedgeSim™ 4.0 will prompt for this. Depending on your system, it will take a few seconds to a few minutes. (*Tip: You will find a new command window in the taskbar. You can accelerate this process by activating the command window.*)

## 2.3 Screen Resolution

HedgeSim™ 4.0 is designed to operate at 640x480 pixels and 256 colors. It will operate fine in higher display sizes and color depths, though it will not fill the display. Refer to your computer/display user's guides if you wish to change the display size or color depth.

## 2.4 Troubleshooting

- (1) Sometimes, your virus protection program may conflict with the HedgeSim™ 4.0 installation process. In that case, disable your virus protection program before installing HedgeSim™ 4.0. After successfully installing HedgeSim™ 4.0, you can re-enable the virus protection program.
- (2) HedgeSim™ 4.0 will install data files at the first execution, and will not do that again. If data files are not installed correctly, you can manually install them by executing **data.exe** in the **data\** directory of your local HedgeSim™ 4.0 program directory. If your installation is successful, the **data\** directory will have 1,288 data files including **data.exe**.
- (3) Due to the format of date, if your regional setting is different from United States, you may have trouble in running HedgeSim™ 4.0. You can temporarily change your regional settings on Windows Control Panel, or ask your system administrator for this.
- (4) Note to network administrators: If you are downloading HedgeSim™ 4.0 to use on a network under a folder, you may get an 'access violation' on the first attempt of executing the program. You need to execute HedgeSim™ 4.0 once after installation so that it extracts the data files with administrative privilege.

# 3. Starting a Simulation

## 3.1 Brief Introduction

To start a HedgeSim™ 4.0 simulation, click on the HedgeSim™ 4.0 icon in your windows program. The first screen that you see gives you a brief introduction to the simulation (see figure 3.1). At this point, proceed by clicking on **CONTINUE** or viewing the **CREDITS**.

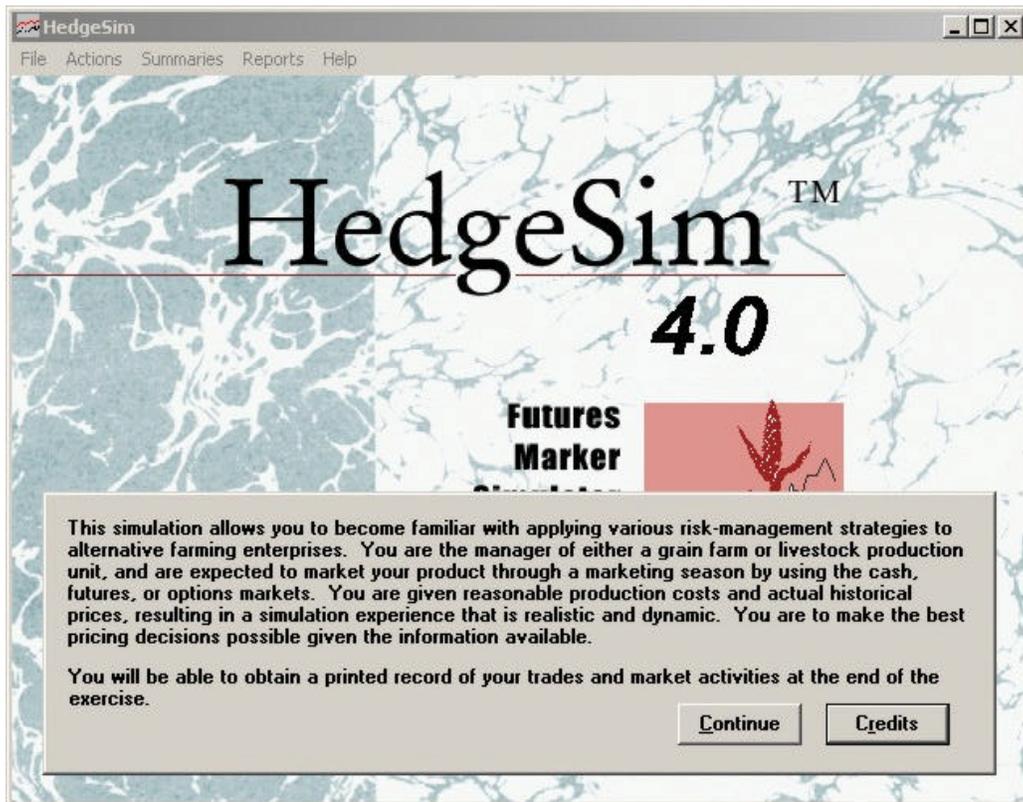


Figure 3.1

### 3.2 Login

The next step is to login to the program. HedgeSim™ 4.0 prompts the user for first name, middle initial, and last name (see figure 3.2). This information shows on the printout. This is very handy, especially when dealing with classes with several students.

<b>First Name</b>	John
<b>Middle Initial</b>	Q
<b>Last Name</b>	Public
<b>OK</b>	

Figure 3.2

HedgeSim™ 4.0 also provides the ability to override randomization and to designate a specific contract and year to simulate. See Appendix A.3 for instructions and codes. This feature is especially useful for computer laboratory exercises where all the students can observe and trade the same commodity and year while receiving instruction from the teacher.

### 3.3 Getting Started

After logging into the program, HedgeSim™ 4.0 asks you to designate either grain or livestock production (see figure 3.3).

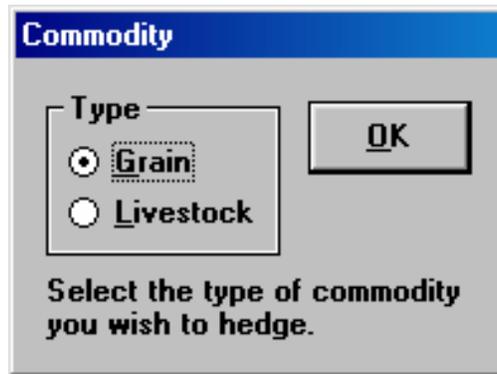


Figure 3.3

After this selection, HedgeSim™ 4.0 presents you with a scenario. The scenario describes the type of enterprise you will manage, the current date, and the expected date for marketing your inventory. The specific commodity and year that you simulate are selected randomly (see figure 3.4). In addition, HedgeSim™ 4.0 provides you with two months of past price data and the opportunity to view historical data that is useful in subsequent marketing decisions.



Figure 3.4

## 4. Getting Around in HedgeSim™ 4.0

### 4.1 Main Window

The main window displays the bar-charts (open, high, low, and close) of a designated futures contract (see figure 4.1). The cash price is illustrated with a solid red line, while volume and open interest are graphically shown by the blue bars and purple line respectively.

The top right-hand corner of this window details the information shown in the graphs. Listed are the current date, the open, high, low, and close for the day, and the current cash price. Volume and open interest are also listed. You can change to a different contract month by moving the mouse to where the current contract is listed and clicking on the desired month. The respective information will then be displayed for that contract.

The bottom right-hand corner of the screen displays all the functions you need for conducting this simulation. There are seven squares marked **NEXT DAY**, **BANK STATUS**, **TRADE**, **LOG**, **MARKET**, and **EXIT**. Each one of these functions is explained in the next section. To move through the simulation, just click on the function marked **NEXT DAY**. Keep clicking on **NEXT DAY** to proceed through the simulation. All information is updated each new day. You may trade in the futures and/or options markets at any time. All trades are marked-to-market and this information is reflected under **STATUS**, **LOG**, and **BANK**. You can check your **STATUS**, **LOG**, and **BANK** often to monitor your performance. While working through the simulation, HedgeSim™ 4.0 may give messages that help guide you.

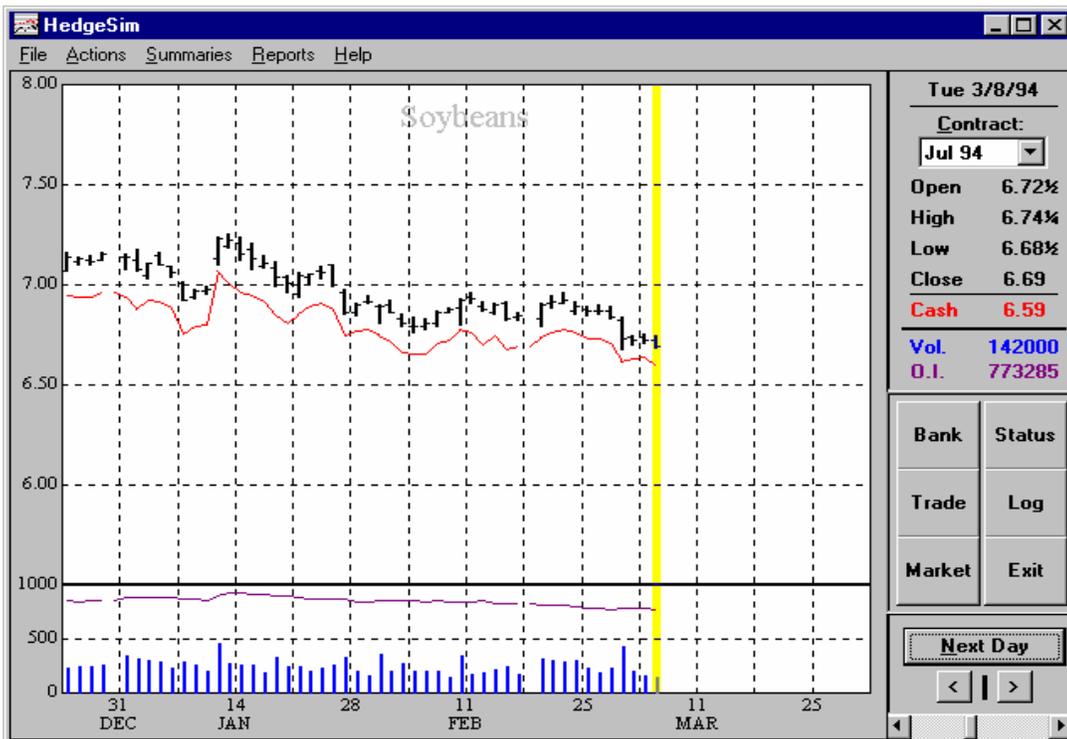


Figure 4.1

## 4.2 U.S.D.A. Reports

Throughout the simulation, HedgeSim™ 4.0 prompts you concerning the release of U.S.D.A. reports. These reports may prove useful when making your marketing and pricing decisions. To view the reports go to the main menu bar and click on **REPORTS**. You then have a choice of viewing reports for either **GRAIN** or **LIVESTOCK** depending on which commodity you are

trading. Five-year historical production and average prices for the respective commodities can be viewed at any time during the simulation under the heading **HISTORICAL**. Note, if you are in a grain simulation and click on livestock reports, HedgeSim™ 4.0 indicates that you are not producing livestock. Grain **STOCKS** are reported for corn, soybeans, and wheat. Crop **PRODUCTION** estimates are reported for both corn and soybeans. For livestock, both the Quarterly Cattle on Feed report and the Quarterly Hogs and Pigs report are given under the category of **PRODUCTION**. All stock and production reports are made available on the actual day that the report was issued.

### 4.3 Menu Bar

Many of the previous functions, and most of the functions described in Section 5, may be accessed through the main menu bar at the top of the page. The main menu bar is labeled File, Actions, Summaries, Reports, and Help (see figure 4.1). In addition, under File, you may activate the Windows calculator while running the simulation.

## 5. HedgeSim™ 4.0 Functions

### 5.1 Next Day

This is the function that guides you through the simulation. Each time you click on **NEXT DAY** (figure 4.1), the information shown in the graphs and the numbers in the data section changes to reflect the new day. You may also move back to previous days by clicking the **left arrow symbol**. You may also move forward with the **right arrow symbol**, but HedgeSim™ 4.0 does not let you look into the future. That is, you can only trade futures and options contracts during the “current” day, but can trade on as many days as desired. As you approach your projected marketing date, HedgeSim™ 4.0 indicates the earliest date for marketing your production. You do not have to sell your production immediately (see **MARKET**). HedgeSim™ 4.0 also tells you if it is a holiday. Trading or marketing activities may not usually be executed on holidays.

### 5.2 Bank

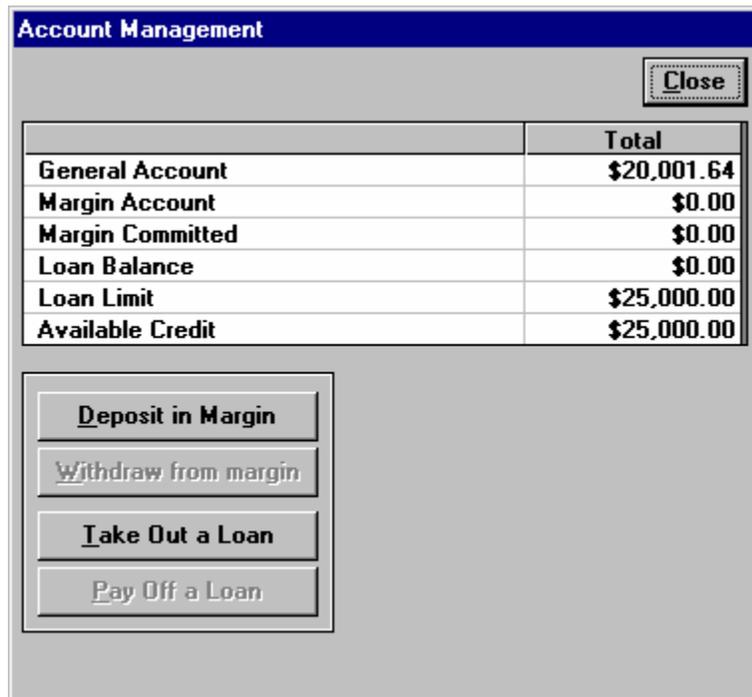
After clicking on **BANK**, a window appears that shows all of the financial information relevant to your trading account (see figure 5.1). You may do banking at any time during the simulation. There may be times throughout the simulation when the computer will ask you to do some banking (i.e., if you get a margin call and don’t have enough money in your Margin Account to cover it). If this happens, just follow the on-screen instructions.

#### General Account

You start with \$20,000 in your General Account. This is cash that can be used to post margin for trading activities. While this money is in the General Account, it compounds interest. The interest rate is based off the historical three month T-bill rate for the respective year.

## Margin Account

This is the account that you have with a brokerage firm. Your Margin Account is -0- when the simulation begins. To place money in the Margin Account, click on **DEPOSIT IN MARGIN**. HedgeSim™ 4.0 then asks how much you wish to place in the account. All margins for futures positions, option premiums, and brokerage fees are drawn from the Margin Account. All gains and/or losses from futures or options transactions are credited or debited to the Margin Account accordingly. Money in the Margin Account does not draw interest. You may transfer money between the Margin Account and the General Account.



The screenshot shows a window titled "Account Management" with a "Close" button in the top right corner. Below the title bar is a table with two columns: the first column lists account items, and the second column, labeled "Total", shows their respective values. Below the table is a vertical stack of four buttons: "Deposit in Margin", "Withdraw from margin", "Take Out a Loan", and "Pay Off a Loan".

	Total
General Account	\$20,001.64
Margin Account	\$0.00
Margin Committed	\$0.00
Loan Balance	\$0.00
Loan Limit	\$25,000.00
Available Credit	\$25,000.00

Figure 5.1

## Margin Committed

Margin Committed shows the amount of margin posted for a particular trade. For instance, if you buy a December futures contract, the computer informs you how much margin you must commit. You must have at least that amount of money in your Margin Account.

## Loan Balance, Loan Limit, and Available Credit

You are allowed to borrow up to \$25,000. This provides you with extra cash for trading activities. To take out a loan, click on the box **TAKE OUT LOAN**. HedgeSim™ 4.0 asks for the amount that you wish to borrow. The amount borrowed shows up under Loan Balance. Interest is applied to the Loan Balance. The interest rate is calculated based on the historical 3-month T-bill rate plus three percentage points. You can pay off the loan or any portion of it at any time during

the simulation by clicking on **PAY OFF LOAN**. Money is taken from your General Account to pay off the loan.

### 5.3 Status

**STATUS** shows your overall financial status and summary of your expected and actual situation before and after marketing decisions (see figure 5.2).

There are several important pieces of information under **STATUS**. The **STATUS** may be checked at any time during the simulation.

Financial Position		
Production Amount: 28160 bu.		Close
	per bu.	Total
<b>Cash Value</b>		
futures based	\$4.8425	\$136,364.80
sold	\$0.0000	\$0.00
effective cash price	\$4.8425	\$136,364.80
<b>Futures Gain/Loss</b>		
realized		\$0.00
unrealized		\$0.00
<b>Options Gain/Loss</b>		
realized		\$0.00
unrealized		\$0.00
Effective Price	\$4.8425	\$136,364.80
Expected Expenses	\$5.9300	\$166,988.80
Net Profit	-\$1.0875	-\$30,624.00
Rate of Return		-18.3%

Figure 5.2

#### Production Amount

Shows the amount of cash commodity that is predicted to be harvested or raised for a particular marketing season (bushels for grains and hundredweight for livestock).

#### Cash Value

*Futures based* – shows the expected price per unit based on the corresponding futures price. This expected price changes daily. It also provides a predicted total revenue figure which is based on the production amount and expected price (futures price). HedgeSim™ 4.0 does not provide nor adjust for an expected basis.

*Sold* – when you decide to sell the cash commodity, the actual cash price (the cash price the day you sell) is shown along with a corresponding total revenue figure.

*Effective Cash Price* – shows the per unit cash price taking into account any gains and or losses from futures and/or options transactions and provides a corresponding total revenue figure.

#### Futures Gains and Losses

*Realized* – shows all gains and losses from futures transactions after positions have been closed (including brokerage fees).

*Unrealized* – shows all gains and losses from futures transactions for that date (marked-to-market).

#### Options Gains and Losses

*Realized* – shows all gains and losses from options transactions after positions have been liquidated (includes option premium and brokerage fees).

*Unrealized* – shows all gains and losses from options transactions for that date (marked-to-market).

At the bottom of this window is a small income statement that shows the Effective Price, Expected Expenses, Net Profit, and Rate of Return (net profit per unit/expenses per unit). Any profit and or losses are credited and/or debited to your General Account under **BANK** only after an open position is closed and/or inventory is sold in the cash market.

## 5.4 Trade

This is where all of the trading action occurs. This window basically acts as your broker (see figure 5.3). With the mouse, designate a buy or sell, the instrument that you want to trade (either futures, call options, or put options), and the corresponding contract month. You can initiate and/or liquidate contracts from this window. When trading options, HedgeSim™ 4.0 allows you to pick from various strike prices and corresponding premiums associated with the options. Options premiums are calculated based on the Black options pricing model. When executing a trade and you don't have enough money in your margin account to cover the transaction, HedgeSim™ 4.0 asks you to do some banking. HedgeSim™ 4.0 allows banking transactions at this stage without leaving the **TRADE** function. Note, there is a \$30 commission charge each time you enter and exit the market for both futures and options contracts. Therefore, the total round turn commission is \$60.

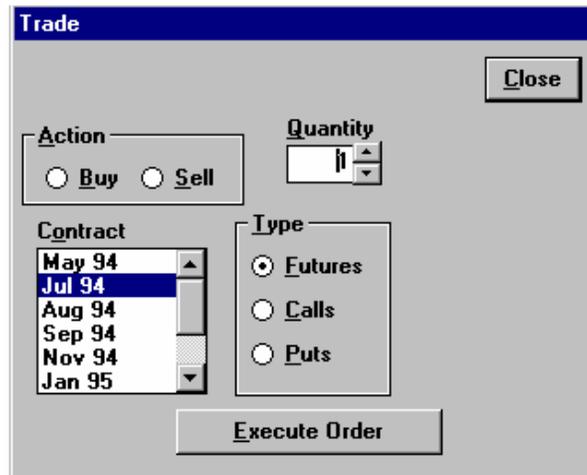


Figure 5.3

HedgeSim™ 4.0 does not allow one to open a new options position approximately one week prior to delivery on a contract, which is typically the first day of the contract month.

## 5.5 Log

**LOG** keeps track of trading activities (see figure 5.4). It is simply a record of all of your transactions (both futures and options). You may also execute some trading functions at this window. If you want to liquidate a futures or options contract, highlight the contract you want to liquidate and then click on **LIQUIDATE** and the computer will do the rest. You may also **EXERCISE** an options contract in the same manner. You may liquidate or exercise multiple contracts by highlighting one contract, then when holding the mouse down, drag the icon to addition contracts. Also, highlight one or more contracts, the press and hold down the **PREVIEW** button to display the exit price and expected gain or loss.

Initial	Current	Contract	Strike	Type	Date In	Date Out	Bought At	Sold At	Gain/Loss
Short	Short	Jul 87	4.75	Call	03/02/87		0.0000	0.1437	-\$30.00
Short	Short	Sep 87	4.00	Call	03/02/87		0.0000	0.7100	-\$30.00
Long	Long	Aug 88	0.00	Futures	03/02/87		4.9100	0.0000	-\$30.00
Long	Long	Mar 88	0.00	Futures	03/02/87		4.8700	0.0000	-\$30.00

Futures     Open Positions  
 Options     Closed Positions

To liquidate a contract or exercise an option, select a line from the table and click the appropriate button.

Figure 5.4

## 5.6 Market

To market the cash commodity, click on **MARKET**. You may only market the cash commodity once the computer signals that your inventory is ready to be sold. If you try to market before the marketing date, the computer tells you that you can not market yet. Marketing inventory can occur only after the computer prompts you (see figure 5.5).

For cattle and hogs, you have one week after the computer gives the signal to market the inventory. After that week, HedgeSim™ 4.0 automatically markets the inventory and liquidates all open futures and options positions. At this time you may view the results of our hedging exercise in the **STATUS**, **LOG** and **BANK**. Upon exiting HedgeSim™ 4.0, you may also make a printout of the simulation results. HedgeSim™ 4.0 also asks if you want to restart the session or exit HedgeSim™ 4.0 entirely.

For grains (corn, soybeans, wheat), you have the ability to store the commodity and market at a later date. After HedgeSim™ 4.0 prompts you to market, you have up to nine months to market the grain. After nine months, HedgeSim™ 4.0 will automatically market the grain and liquidate all open futures and options positions. If you decide to store, HedgeSim™ 4.0 will charge you storage costs. These costs are added daily to your expenses. As with the livestock contracts, you are able to view the results of the hedging simulation in the **STATUS**, **LOG**, and **BANK**. Upon exiting HedgeSim™ 4.0, you may obtain a printout of the simulation results (see next section).



Figure 5.5

## 5.7 Exit

You may exit HedgeSim™ 4.0 at any time by clicking on **EXIT**. HedgeSim™ 4.0 then asks if you would like a printout of the session. HedgeSim™ 4.0 gives you the choice of printing financial statements and/or a graph of the nearby futures and cash prices (see figure 5.6). In addition, HedgeSim™ 4.0 allows you to save your trading records to a file by clicking on save to Save to File.

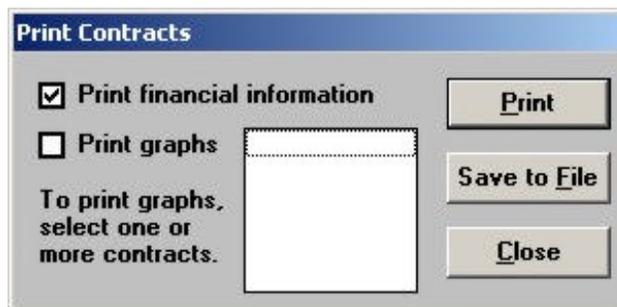


Figure 5.6

## 6. Caveats and Assumptions

HedgeSim™ 4.0 provides a realistic and dynamic hedging simulation unmatched by any other known hedging simulation software. However, in order to strike a balance between realism and programmability, various assumptions and/or simplifications had to be made. Because of this, users may find minor features which are not consistent with their actual market experiences. The following are those considered most important for typical users.

### 6.1 Program Related

- If an option position is open and becomes either deep out of or deep in the money, one can not view the option premium or liquidate the option under the **TRADE** window. When this happens, an option can only be liquidated from the **LOG** window.
- When an option position is exercised, the option trade will be displayed as a loss in the **LOG** window. This reflects the premium and commission that is paid up front. The subsequent futures position, if liquidated on the day of the exercise, will be displayed as a gain. Under **STATUS**, the profits and losses will show up under both “realized futures” and “realized options”. Net profits from exercising an option will be placed in the margin account under **BANK**.
- For programming reasons, both grain and livestock option contracts expire approximately one week prior to the beginning of the delivery month.
- All inventory is sold when marketing the cash commodity. Splitting crops for multiple cash marketing is not allowed.
- HedgeSim™ 4.0 does not allow the placing of stop-loss orders.
- HedgeSim™ 4.0 does not provide data for the expected basis at contract maturity.

## 7. Appendix A: Specifications

### A.1 Futures Contract Specifications

Contract	Exchange	Size	Initial Margin	Maintenance Margin
Corn	CBOT	5,000 bu.	\$800	\$640
Soybeans	CBOT	5,000 bu.	\$2,000	\$1,600
Wheat	CBOT	5,000 bu.	\$800	\$640
Live Cattle	CME	40,000 lbs.	\$1,000	\$800
Live/lean Hogs	CME	40,000 lbs.	\$1,000	\$800

## A.2 Cash Price Specifications

Cash Commodity	Specification
Corn	No. 2 Yellow, Central Illinois
Soybeans	No. 1 Yellow, Central Illinois
Wheat	No. 2 Soft Red, St. Louis
Live Cattle	Average cwt, Omaha
Live Hogs	Average cwt, Omaha

## A.3 Overriding Commodity Randomization

HedgeSim™ 4.0 allows the user to override the randomization of the specific commodity and year. This feature can be used in a teaching situation allowing all students to be on the same commodity and same year. It can be used to test hedging strategies over specific commodities and years.

To override the randomization system: In the login window, type the commodity code in the box titled First Name. Type the year code in the box titled Last Name (see figure A.3).

Figure A.3

### A.3.1. Commodity Codes

Commodity	Code
Corn	Corncorn
Soybeans	Soysoy
Wheat	Wheatwheat
Live Cattle	Cattlecattle
Live/lean Hogs	Hoghog

### A.3.2. Year Codes

Year	Code
1981	8181
1982	8282
1983	8383
***	***
1999	1999

## 8. Appendix B: Glossary of Futures and Options Terms

### Bar Chart:

A chart that graphs the high, low, and settlement prices for a specific futures contract session over a given period of time.

### Basis:

The difference between the current cash price and a futures price of the same commodity.

### Call Option:

An option that gives the buyer the right, but not the obligation, to purchase the underlying futures contract at the strike price during a specified period.

### Cash Commodity:

An actual physical commodity to be bought or sold, e.g., soybeans, corn, wheat, cattle, and hogs.

### Commission:

A fee charged by a broker for executing futures or options transactions. Also called a brokerage fee.

### Contract Month:

The months that futures contracts are offered in which delivery may take place under the terms of a futures contract.

### Contract Size:

The number of physical units per contract.

### Crop (Marketing) Year:

The time span from harvest to harvest for agricultural commodities. The crop marketing year varies slightly with each commodity, but it tends to begin at harvest and end before the next year's harvest.

### Crop Reports:

Reports compiled by the U.S. Department of Agriculture on various commodities that are released throughout the year. In HedgeSim™ 4.0, the information contained in the reports include expected production (corn, soybeans, cattle, and hogs) and stocks on hand (corn, soybeans, wheat).

### Exercise:

The action taken by the holder of a call option to purchase the underlying futures contract or the holder of a put option to sell the underlying futures contract.

### Exercise Price:

See Strike Price.

**Expiration Date:**

The last day that an option may be exercised into the underlying futures contract. Also, the last day of trading for a futures contract.

**Futures Contract:**

A transferable, legally binding, agreement to make or take delivery of a commodity sometime in the future. Futures contracts are standardized according to the quality, quantity, and delivery time and location for each commodity.

**Hedging:**

Taking a position in the futures market opposite to a position held in the cash market in order to offset the price risk inherent in a cash market position.

**High:**

The highest price of the day for a particular futures contract.

**Liquidate:**

Closing out a position by selling (or purchasing) futures or options contracts of the same delivery month purchased (or sold) during an earlier transaction.

**Long:**

One who has bought futures contracts or owns a cash commodity and has yet offset that position.

**Low:**

The lowest price of the day for a particular futures contract.

**Maintenance Margin:**

Minimum margin (per outstanding futures or options contract) that a customer must maintain in the margin account.

**Margin:**

A deposit made by a futures or options trader with a brokerage firm to assure performance on contract commitments.

**Margin Call:**

A request to bring margin deposits up to a required level.

**Marking-to-Market:**

Calculating the gain or loss of each market position and adjusting the margin account accordingly based on the close of that day's trading session.

**Nearby (Delivery) Month:**

The futures contract month closest to expiration.

**Open Interest:**

The total number of futures or options contracts of a given commodity that have not yet been offset by an opposite transaction nor fulfilled by delivery of the commodity or option exercise; the total number of open transactions.

**Opening Price:**

The range of prices at which the first bids and offers were made or first transactions were completed.

**Option Buyer:**

The purchaser of either a call or put option. Option buyers receive the right, but not the obligation, to assume a futures position.

**Option Premium:**

The price of an option.

**Option Seller:**

The person who sells an option in return for a premium and is obligated to perform when the holder exercises the option.

**Put Option:**

An option that gives the buyer the right, but not the obligation, to sell the underlying futures contract at the strike price during a specified period.

**Round Turn:**

Situation in which a long or short position is offset by an opposite transaction.

**Settlement Price:**

A figure determined by the closing price range of the trading session. Also, the closing price that is used to calculate gains and losses in futures and options market accounts.

**Short:**

One who has sold futures contracts or plans to purchase a cash commodity.

**Strike Price:**

The price at which the option holder can buy (call) or sell (put) the underlying futures contract. Also called the exercise price.

**Volume:**

The number of purchases or sales of commodity futures contract made during a specific period of time. Here this measures the total transactions for one trading day.

## 9. Appendix C: License Agreement

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