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for IBM Personal Computers

Entertainment  
Family

Order No. 6276619  
Disk. No. 6135292

**M.U.L.E.™**

by: **Electronic Arts™**

**What You Need**

IBM Color Display or color TV • IBM PC,  
PC XT, PCjr, or Portable PC with IBM Color  
Display • 128KB of memory • One diskette  
drive

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**Software included:**

Diskette

**System requirements:**

IBM Color Display, PCjr™  
Color Display, or Color TV

IBM PC, PC XT,™ or  
*Portable PC*

128KB of memory

One diskette drive

IBM Color/Graphics Monitor  
Adapter

or

IBM PCjr

128KB of memory

One diskette drive

IBM PCjr Adapter Cable (for use  
with IBM Color Display only)

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International Business  
Machines Corporation  
P.O. Box 1328-S  
Boca Raton  
Florida 33429-1328

Printed in the  
United States of America

6448044

# M.U.L.E.™

By Electronic Arts™  
IBM Version 1.00 by K-BYTE, Inc.

**Entertainment Family**



**Personal  
Computer  
Software**

Learn the rewards and risks of  
free enterprise. Use an unpre-  
dictable Multiple Use Labor  
Element (M.U.L.E.) to help  
develop new land on the planet  
Iraton. Up to four people can play  
the four versions of this fun-filled  
economic strategy game.

## First Edition (August 1985)

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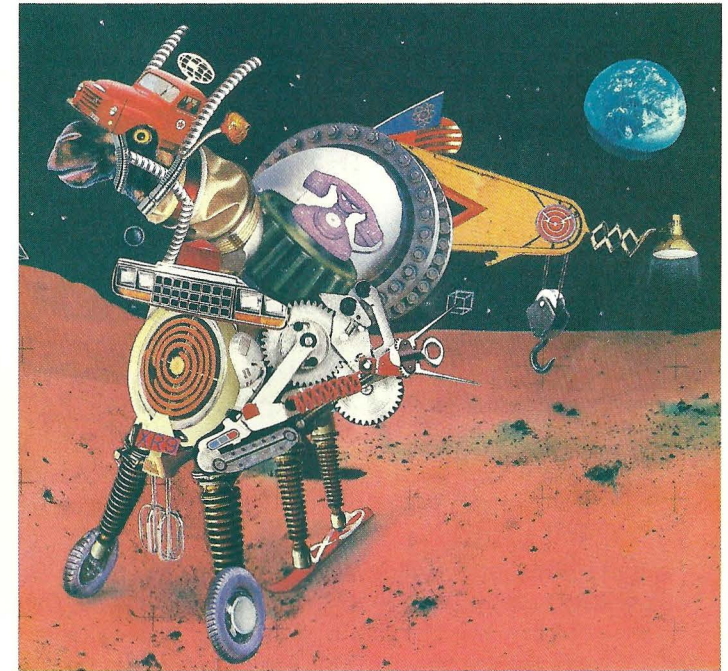
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## Welcome To M.U.L.E.

We take you forward in time several hundred years. Distant planets are being developed by man, but the pace is often slow and very tiring.

An ingenious group of men from the Ozarks have put their heads together and come up with an idea for the "Perfect Robot." They call the robot, **M.U.L.E.**, which stands for **Multiple Use Labor Element**.



A contractor was found to construct **M.U.L.E.**, but things started to go wrong from the very start. When the dust had finally cleared, the job was finished by a restaurant supply company, a maker of pre-school furniture, and the manufacturer of a popular electronic toaster. That's why **M.U.L.E.** looks so, er, unusual.

Everyone thought **M.U.L.E.** would be perfect for planet pioneering, mining, farming, and general hauling.

Because of its behavior, however, people soon realized that **M.U.L.E.** was the proper name for this mechanical beast.

**M.U.L.E.** started doing unexpected things like going berserk and running away from its owners if treated carelessly. **M.U.L.E.** certainly is an unpredictable creature; but, your job is to settle a planet, so you will have to make the best of it.

## Object of the Game

**M.U.L.E.** is a game of exploration and resource development on another planet. The game begins when you are delivered by spaceship to a distant planet. You and your opponents have a number of imaginary months (game turns) to develop the planet (the number of months depends on the level of play).

Each month has four stages: Land Grant, Development, Production, and Auction. Players select plots of land and install **M.U.L.E.s** on their plots. The **M.U.L.E.s** develop the land to produce Food, Energy, Smithore, or Crystite (two valuable ores). The players then trade their goods in the Auction.

The player with the most *wealth* (points) at the end of the game is the winner. *Wealth* consists of money, land, and goods.

In games other than the Beginner's game, the entire colony must have a certain level of wealth in order for *any* player to win. This encourages cooperation between players (or maybe friendly competition, depending on your style of play).

We hope you find **M.U.L.E.** an exciting, educational, and fun game. Now sit back and get ready for the challenge of **M.U.L.E.**, and good luck!

## Getting Started

Follow these steps to get your **M.U.L.E.** program started:

- 1 Place your **M.U.L.E.** diskette in the the diskette drive and close the diskette drive door.
- 2 Turn on your computer. If your computer is already on, press and hold the **Ctrl** and **Alt** keys and then press the **Del** key.

## Choosing the Game You Wish to Play

The fastest way to learn **M.U.L.E.** is by playing the Beginner's game while following along with the manual.

- 1 When the music starts and the **M.U.L.E.** title screen appears, press any key to continue. A message appears that says:  

Beginner
- 2 To change the level of play, press the **Alt** key until your desired level appears on the screen.
- 3 After the game level you want appears on the screen, press the **↵** (Enter) key.

If you do not press any keys a demonstration of the game begins in a few minutes.

Here is a brief description of each of the four M.U.L.E. game levels:

**Beginner's game**—A short version of the Standard game intended for first time M.U.L.E. players.

**Standard game**—The version preferred by most pioneers.

**Advanced game**—The version for experienced pioneers looking for fast and furious action.

**Tournament game**—The ultimate version of M.U.L.E. Only the best pioneers should play.

Instructions on Restoring a Saved Game are on page 30.

## Choosing the Number of Players

After you select the game you want to play, you see another message on your title screen that says:

4 Planeteers

Up to four humans can play, but if you have less than four players, the computer will play the other players.

- 1 To choose the number of human Planeteers you want, press the **Alt** key until the desired number of Planeteers appears on the screen.
- 2 After you see the message with the correct number of players, press the **←** key.

## Using Either A Joystick or the Keyboard

M.U.L.E. is played with each player assigned to either a joystick or a set of keys on the keyboard. Only one joystick can be used; the other players will use the keyboard.

**KEYBOARD USERS:** Choose one of the keyboard "positions" shown below by pressing the "Move Up" key for that position.

**Whenever the screen instructs players to press their "buttons," keyboard players press their "Move Up" key.**

IBM PC, PC XT, or *Portable PC*:

Positions	1	2	3	4
Move Up Key	F1	W	O	↑
Move Down Key	F5	X	.	↓

IBM PCjr:

Positions	1	2	3	4
Move Up Key	W	Y	[	↑
Move Down Key	Z	B	/	↓

**JOYSTICK USERS:** Press the **Alt** key to declare yourself a joystick player.

**Important:** The joystick takes the place of keyboard Position 4. Two players cannot use Position 4 and the joystick in the same game.

## Centering the Joystick

If a player has chosen to use a joystick, a screen for centering the joystick will appear after all players have chosen their playing positions.

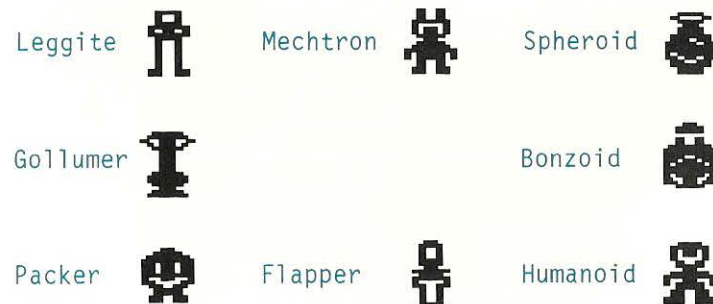
Place the joystick and the centering levers in their center positions. Then, press the joystick button.

**Note:** When we refer to the joystick “button” in **M.U.L.E.**, we are referring to the top red joystick button on the IBM PCjr Attachable Joystick. You may, however, use a number of different joysticks.

If during the game, you find you want to to “center” your joystick again, press the **Ctrl** and **J** keys when the “Status Summary” appears on your screen.

## Choosing Your Color and Character

- 1 The computer displays four different colors, one at a time. The first player to press the joystick button or “Move Up” key, uses that color throughout the game.
- 2 After you choose a color, select a character from the screen as shown in the example below:

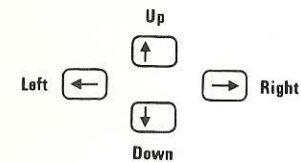


### JOYSTICK USERS:

- Point the joystick towards the character you want and it will appear in the center of your screen.
- Press the joystick button to lock in your character choice.

### KEYBOARD USERS:

- Use the Cursor Movement keys shown below to select a character.



To choose a character in a corner, press two Cursor Movement keys **at the same time**. For example, to select the **Leggite** in the upper left corner, press the **↑** and **←** keys together.

- Press your “Move Up” key to lock in your choice.  
  
If the **↑** key is your “Move Up” key, press the **←** key to lock in your choice.
- When you are finished, the computer displays the remaining colors for the other players.

- 3 After all selections have been made, a screen shows what you have chosen. You confirm your choices by pressing your joystick button or “Move Up” key. If you want to start over, press the **←** (**Backspace**) key.



## Special Keys

- **Alt** — Pressing this key speeds up play by “skipping” the remaining part of the round in progress.
- **←** (Backspace) — When Backspace appears on a selection screen you may press it to return to the beginning of the game.
- **Ctrl**, **Alt**, and **Del** — These keys let you restart a game. Press and hold the **Ctrl** and **Alt** keys and then press the **Del** key.
- **Ctrl** and **J** — Pressing these keys during any Status Summary screen allows you to center your joystick again. This is useful if, during the game, you need better control of your character’s movement.
- **Ctrl** and **Q** — Pressing these keys during any Status Summary screen allows you to save your game. See pages 29 and 30 for further instructions on Saving and Restoring games.
- **Ctrl** and **S** — Pressing these two keys at the same time turns off the sound. Pressing these keys again turns the sound back on.
- **Esc** — This key lets you pause and resume a game. Press the key until you hear a beep to pause. Press the key again to resume the game. (You will not hear the beep on the PCjr if the sound is turned off.)

**Note:** We recommend that you read the “Using Either a Joystick or the Keyboard” section to be sure you know which keys to use when moving your character up or down.

## The Beginner’s Game

It is now time to play the Beginner’s game of M.U.L.E. You may want to pause the game while you refer to the manual by pressing the **Esc** key. It may be useful to pause when the game asks you to press your “button,” because eventually your turn will start automatically. To continue playing, press the **Esc** key again.



The character we will be following in the examples of the Beginner’s game is the orange Bonzoid, shown here.

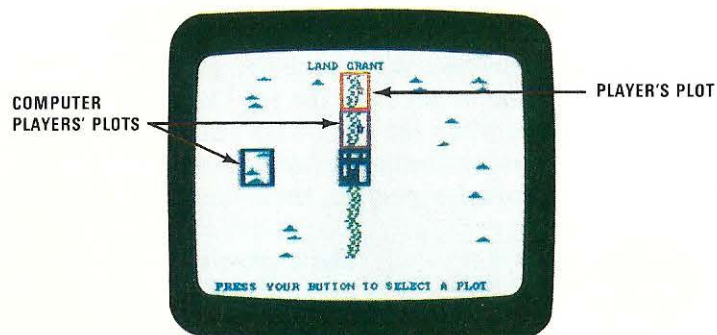
## Status Summary



The screen above shows what the first Status Summary looks like.

In the Beginner’s game, you and the other players each start with \$1000 in money. You also receive eight units of Food and four units of Energy (a total of \$300 worth of “goods”).

## Land Grant



The screen above shows what the first Land Grant looks like. In this example, the player selects a plot on the River.

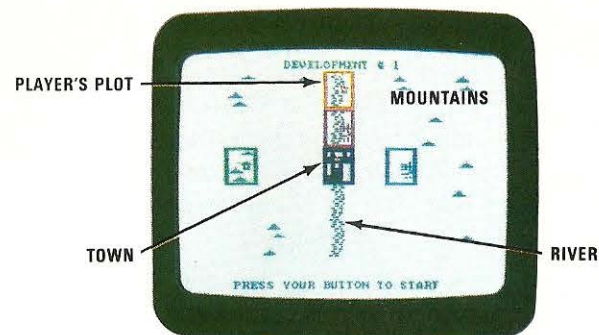
The Land Grant is your chance to get one free plot of land each time it is your turn. It is worth \$500 in figuring your worth.

- 1 A square will outline each of the plots available on the planet, one at a time.
- 2 When the moving square is over the plot you want, press your joystick button or "Move Up" key. The plot will be highlighted in your color.

**Q:—Why am I unable to always get the plot of land I want in the Land Grant?**

**A: —** *It may be because you and another player are both pressing your joystick button or "Move Up" keys at the same time and the other player is getting the land. That happens because the computer figures out who has the least amount of money, land, and goods, and gives that player the land. Or else, it may be because your "trigger finger" is just a little too slow.*

## Development: Deciding What to Produce



The player has decided to develop the River plot to produce Food.

The first step in Development is deciding what you want to produce on your land. Mountains are best for mining Smithore, River Land is best for farming Food, and Flatland is best for producing Energy. (See pages 47, 48, and 49 for more details.)

## Moving Your Character

During the Development stage, players (one at a time) move around the land outfitting and installing M.U.L.E.s and performing other actions. Your plot of land flashes when it is your turn to play. Notice that computer players' plots also flash when it is their turn to play.





**Note to Keyboard Users:** If there is a player using a joystick, you can use either the joystick or the Cursor Movement keys during the Development stage. If there is no joystick being used, all players must use the Cursor Movement keys.



Follow these steps to start your Development turn:

### Using a Joystick:

- 1 Press the joystick button until you see the town on the screen. (*We recommend that you do this now, and when the town appears, pause the game. Continue reading this section and the Outfitting Your M.U.L.E. section before playing further.*)
- 2 Use the joystick to move your character.
- 3 When you finish your turn, pass the joystick to the next player.

### Using the Keyboard:

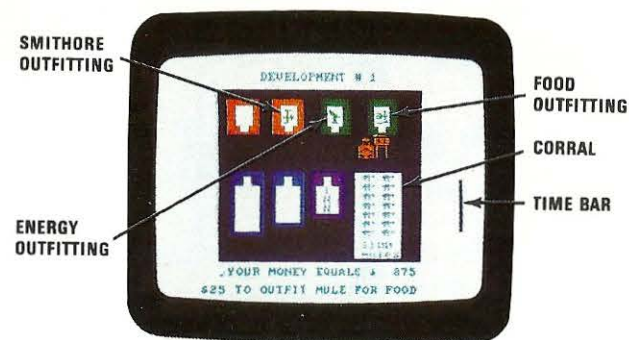
- 1 Press your "Move Up" key until you see the town on the screen. (*We recommend that you do this now, and when the town appears, pause the game. Continue reading this section and the Outfitting Your M.U.L.E. section before playing further.*)
- 2 Use the Cursor Movement keys , , , and  to move your character.

To move diagonally, you must press the two direction keys that point in the direction you wish to go. For example, to move diagonally up and to the left, press the  key and  key together.

**Q — Why can't I see the computer players moving their characters?**

**A: —** *Since computers never make mistakes, they are boring to watch. But, you will see the results of their actions, such as the house on their plot turning into a Production Symbol (Smithore, Food, or Energy).*

## Outfitting Your M.U.L.E.



The screen above shows the player outfitting a M.U.L.E. to produce Food.

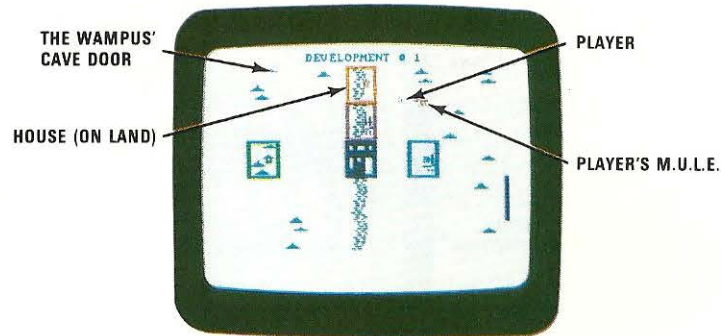
- 1 When you press your joystick button or "Move Up" key to start your turn, you will see the town zoom into view. The time bar on the right side of your screen shows you how much time you have left for Development. When it runs out, your turn ends regardless of what you are doing.
- 2 Go into the corral, get a M.U.L.E. and take it into any outfitting shop. The empty shops will be open for business in the more advanced levels of the game.

If you outfit a M.U.L.E. and then realize that you do not have time to lead it to your land and install it, just take it back into the corral. You get back the money you paid for the M.U.L.E. even though you lose the cost of outfitting.


**Q: — Sometimes I go into the corral and cannot get a M.U.L.E. Why not?**

**A: —** *You have to go all the way into the corral. When you do, you see the M.U.L.E. following obediently behind you. The same goes for the outfitting shops. You have to go all the way in and come all the way out.*

## Installing Your M.U.L.E.



The screen above shows the player before installing the M.U.L.E.

- 1 To install a M.U.L.E., lead it out of town to your plot of land.
- 2 When your *character* is over the house, press the joystick button or the  key. If you successfully install your M.U.L.E., it will turn into a Production Symbol. If you miss, you will hear a beep. That means you need to try again.

Remember, your *character*, and not the M.U.L.E., has to be over the house to install the M.U.L.E.

## Wampus Hunting

The previous screen shows where you might catch the Wampus. The Wampus is a cunning little creature that lives in caves high in the mountains.

When the Wampus opens his cave door, a bell rings, and a light flashes. If you catch the Wampus, he will give you money from his Treasure Chest to let him go.

To catch the Wampus, you have to be outside of town, without a M.U.L.E. Then, when you see his light, jump on him by moving your character over his light.

**Q:** — Why am I unable to catch the Wampus?

**A:** — There are two reasons. First, you may be pressing your joystick button, which keeps him away. Second, you may be standing on his mountain, which keeps him from opening his door.

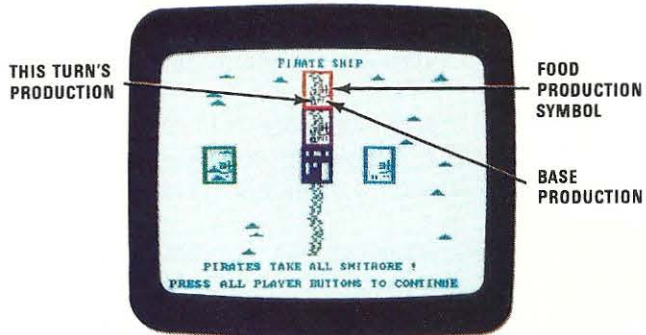
## The Inn

Going into the Inn is an automatic way to win money, but it also ends your turn. The more time remaining, the more you can win.

## Random Events

“Random Events” occur throughout the game. These include Planetquakes, Acid Rain, and Pirate Ships. You really cannot plan for these events but they do happen.

## Production



The screen above shows that the player's River Land has produced five units of Food.

Production happens automatically; you just watch your land produce. Each one of the small boxes that appears on the left side of your land represents one unit.

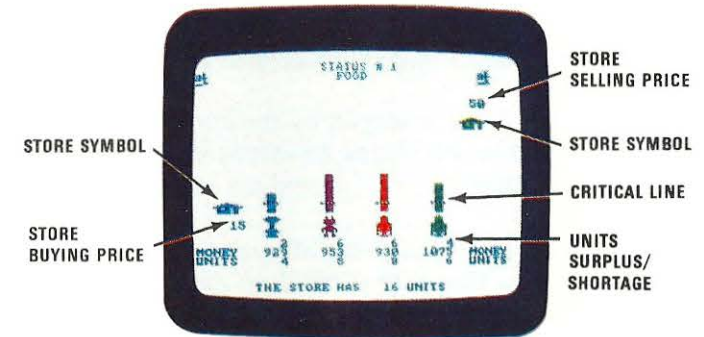
The amount you produce each turn depends on four things, barring any random events:

- Your "Base Production" — This is represented by the smaller boxes that appear in the lower right corner of your land. Base Production is the number of units your plot produces if nothing else affects it.
- The amount of Energy you own — In each month, a Food or Smithore M.U.L.E. needs one unit of Energy leftover from the previous month to produce any units.
- The "Economies of Scale" bonus— Whenever two or more plots producing the same product are side by side, you get one extra unit of production on each plot.
- The "Learning Curve Theory" of Production bonus — If you have three plots producing the same product, regardless of where the plots are

located on the map, you get an extra unit of production on each plot.

The "Economies of Scale" and "Learning Curve Theory" bonuses are explained further in the "The Economics of M.U.L.E." on pages 27, 28, and 29.

## Player Status



The screen above shows the player with a surplus of Food.

*We recommend that you pause the game here and read this section, The Store, and Declaring sections before playing further.*

There are auctions each round where you can sell or purchase Food, Energy and Smithore (if at least one player owns a unit). Each auction starts by showing your *Status* (how much you have or do not have) for that product.

A line grows and shrinks to show you how much you started with, how much you used, how much spoiled, and how much you produced during your last turn. The number in the units row also reflects these changes. This number represents the total number of units you own of that product.

A "critical line" tells you if you have a shortage or a surplus for your next turn (except for Smithore, which is not "critical" for survival). Surplus means you have more units than you need of the product, shortage means you don't have enough units of the product. The number immediately below the character tells you exactly how much of a surplus or shortage you have.

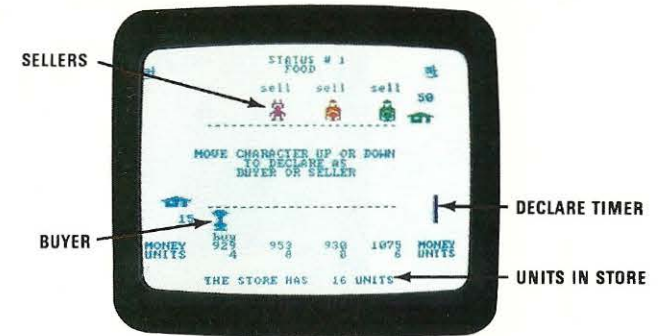
Finally, there is a message that tells you how much of that product the Store has.

## The Store

The Store is played by the computer. During the Auction, the Store buys and sells Food, Energy, and Smithore.

The price the Store will pay to buy a product is shown below the store symbol on the left side of the screen. The amount it will sell a product for is shown above the store symbol on the right side of the screen. In the Beginner's game, the Store starts out with 16 units of Food, 16 units of Energy, and no Smithore. After that, the number of units it has to sell depends on what the players buy and sell.

## Declaring



The screen above shows the player declaring to be a Seller in the Food Auction.

You now must declare whether you are a Seller or Buyer.

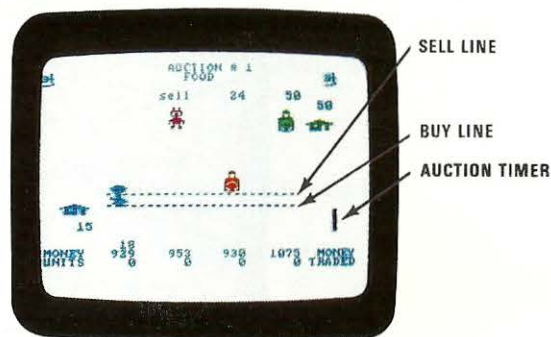
**Joystick Users:** Move your your stick up to be a Seller, down to be a Buyer.

**Keyboard Users:** Press your "Move Up" key to be a Seller, your "Move Down" key to be a Buyer.

You can change back and forth as often as you wish until the Declare Timer runs out.

**Note:** If you have a surplus, you should sell (your character will automatically jump to the SELL position). If you have a shortage, BUY!

## The Auction Begins



The screen above shows the player lowering the selling price to \$24 per unit.

*We recommend that you pause the game here and continue reading this section and Trading section before playing further.*

The object of the auction is to buy products that you need at the lowest price you can get. If you are selling, you want to get the highest price buyers are willing to pay.

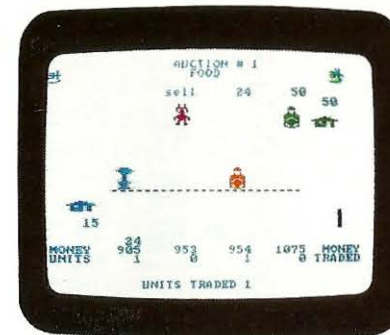
The auction starts with the Sellers on the top of the screen and the Buyers on the bottom. Now the units row shows the number of *units traded* during the auction, instead of the units owned by each player.

**Sellers:** Move your character down to lower your price.

**Buyers:** Move your character up to raise your bid.

Dashed lines indicate the highest bid among the Buyers and the lowest price among the Sellers. All characters can move at the same time, racing to buy and sell before the Auction Timer runs out.

## Trading



The screen above shows two players making a transaction.

When the Buy Line and the Sell Line meet, the Buyer and the Seller start to flash. Trading begins, one unit at a time.

As trades are made, the Buyer's money decreases, the Seller's money increases, and both players' Units Traded increases. If more than one player is on the Buy Line or Sell Line, the player with the least total wealth will trade first. Once two players start trading, no other player can trade until one of the two moves away from the line.

A player can stop trading at any time by moving away from the line. Trading continues until the Seller runs out of extra product, or the Buyer runs out of money.

**Q: — The store was out of Food and I still wanted to buy, but I could not quite reach the Seller. Is something wrong?**

**A: — No.** *If the Seller does not want to sell you anything, the Seller can just stay on top of the screen out of your reach.*

## Updated Status Summary

STATUS SUMMARY # 1			
MONEY	1875		
LAND	525		
GOODS	194		
TOTAL	1994		
MONEY	953		
LAND	525		
GOODS	210		
TOTAL	1728		
MONEY	954		
LAND	525		
GOODS	218		
TOTAL	1697		
MONEY	985		
LAND	770		
GOODS	1600		
TOTAL	1600		
COLONY	6911		

PRESS ALL PLAYER BUTTONS TO CONTINUE

The example screen above shows the player in third place but not losing by much.

The Status Summary screen shows your *wealth* or points after each round. Do not feel bad if you are in last place at this point in the game.

Being the last place player does have some advantages. For example, if you and another player both try to get the same piece of land during the Land Grant, you get the land. If you and another player both try to Buy or Sell at the same price, you get to make the trade.

In any Status Summary screen, you are given the opportunity to save your game by pressing and holding the **Ctrl** key, and then pressing the **Q** key. Follow the instructions on the screen after pressing the keys. For more information on Saving and Restoring a game, see pages 29 and 30.

## Transferring M.U.L.E.s

Later in the game you can move **M.U.L.E.s** that you have installed. You can even take them back into town and re-outfit them for a different type of production.

- 1 To transfer a **M.U.L.E.**, go to the house on your plot (with or without a **M.U.L.E.** in tow).
- 2 When you press your joystick button or the **←** key, the **M.U.L.E.** you are leading (if any) will be installed and the one previously installed will be following you.
- 3 You can take this new **M.U.L.E.** to another plot or you can re-outfit him for a different type of production (by taking him back to town). If you have no other use for the **M.U.L.E.**, return it to the corral for \$100.

## Winning the Game

The Beginner's game will last six months. The ship will return at the beginning of the sixth month to prepare to take you off the planet and bring you home. Whoever has the most wealth or "Net Worth" at the end of the game, is the winner, the "First Founder" of the new planet.

## Helpful Hints for the Beginner

1. Always get land during the Land Grant, even if you cannot get the plot you want, because it is worth \$500 in figuring your wealth or Net Worth. Similarly, if you don't have enough money to develop a new plot, it is still wise to get one for future use.
2. There will be less time on the time bar during Development if you do not have enough Food. Watch the "critical line" on the Food status screen to see if you have a Food shortage.



3. Avoid moving through Mountains and the River whenever possible because they slow you down. The fastest way to move is diagonally.
4. Learn how to transfer and re-outfit **M.U.L.E.s** to take advantage of shortages and surpluses that develop.
5. If you have any time left after installing your **M.U.L.E.s**, look for the Wampus. Be careful though, if little time is left on the time bar, ignore him and go to the Inn.

The amount of money in the Wampus Treasure Chest depends on how many times he is caught. At the start of the game, the Wampus has \$100. At the end of each player's turn, \$100 is added to his treasure chest if he is NOT caught.

When the Wampus is caught, the money in the Treasure Chest is immediately cut in half and rounded up to the nearest hundred for the next player. The amount never goes below \$100 or above \$1000.

6. A **M.U.L.E.** produces zero units during a turn if it does not have enough Energy. Food or Smithore **M.U.L.E.s** need one unit of Energy *each month* left over from the previous month. (Energy **M.U.L.E.s** just use Energy as they make it.) This is why the "critical line" on the Energy status screen may be different for each player.
7. Cooperation with another player can be important. To take advantage of "Economies of Scale" and the "Learning Curve Theory," you may want to specialize your production. For example, if you produce all the Food for you and another player while the other player produces all the Energy, you both will increase your production and profits.
8. Always get the other players to pay the highest price when you are selling, and to sell at the lowest

price when you are buying. Learn to "tease" them into taking your price by wiggling your character up and down on the Auction screen.

9. Remember, the player with the least amount of money, land, and goods, always gets the advantage. If you are richer than the other Seller, the other Seller wins all the "ties." The same is true when you and another player are both trying to buy something.

Also, the player in last place moves first if there are less than eight **M.U.L.E.s** in the corral. If there are more than eight, the player in last place moves last to give the player the benefit of seeing what everyone else does.

10. During each player's turn there is a 25 percent chance of a random event happening. The losing player never receives a bad luck event, and the winning player never gets a lucky event.

The *Flapper* character (the Beginner's character) will not get bad luck events, even if that player is winning the game.

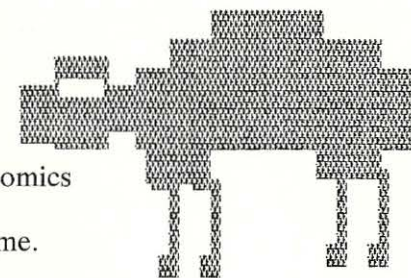
11. Another kind of random event may occur just before the Production stage. These are "major" random events that usually affect all players, but sometimes will only affect individuals. Watch out for the Pirate ship, it plunders everyone's Smithore. (In the Advanced and Tournament games, it plunders Crystite, which we will explain later.)
12. The price of goods is based on "supply and demand," described later in this book in "The Economics of **M.U.L.E.**" In the Status Summary, the computer calculates your goods according to the current value. This value is based on the results of the Auctions that occurred in the previous month.

13. Use the “handicapping” system built into **M.U.L.E.** to even out the players. The *Flapper* character is for beginners; it gets extra money and more time during the Development stage. The *Humanoid* character is for advanced players; it gets less money and less time.
14. Use the **Alt** key to “speed up” play. In Development, when the **Alt** is held down, the computer player will move quickly through its turn. When the key is released, the speed of play will return to normal. In a Product Auction, once the **Alt** key is pressed, the computer players will speed through the auction.

**Important:** In a Product Auction, if you are on the Sell line while trading is taking place, pressing the **Alt** key will cause all your units up to the “critical line” to be sold. If you are on the Buy line, pressing the **Alt** key will cause you to buy all available units at that price.

## The Economics of M.U.L.E.

Economics is what **M.U.L.E.** is all about. In this section we give you a basic understanding of economics and how it affects the outcome of the game.



### Pricing

Prices are set by supply and demand. Prices go up when the supply is small and the demand is high. Prices go down when there is a large supply and little demand.

For example, if there are 25 units of Smithore in the store and all players are producing or mining Smithore, the store offers a very low price to buy Smithore.

In **M.U.L.E.**, the store sets prices using a formula based on principles of supply and demand, and also on the latest prices paid for the product.

No store price can go over \$255. Food, Energy, and Smithore have minimum prices of \$15, \$10, and \$20 respectively.

### Economies of Scale

The “law” of “Economies of Scale” says that the bigger you are, the bigger you get. If you double the size of your operation, you more than double your effectiveness. This is because of things like mass production, and volume discounts on buying raw materials and building tools.

In **M.U.L.E.**, if you have two or more plots of land side by side doing the same kind of production, your

M.U.L.E.s become more efficient and average one extra unit of production on each plot. No more than one extra unit is given for "Economies of Scale," regardless of how many plots are touching.

## Learning Curve Theory of Production

In many industries, as you build more and more of a product, you learn how to do it more efficiently.

The "Learning Curve Theory" says that every time you double the total number of units you have ever built, you "learn" to build that product for 20 percent less.

In M.U.L.E., you get an extra unit (on each plot) for every three plots of land you have that are producing the same kind of product, regardless of where they are located. This is in addition to the bonus you get from "Economies of Scale" when you have adjacent plots.

For example, if you had three Smithore mines, and two were side by side, each mine would produce one extra unit for the "Learning Curve Theory" effect, and the two adjacent plots would each produce a second extra unit for the "Economies of Scale" effect.

## Law of Diminishing Returns

Just when you thought you had things all figured out, economics comes through with the "Law of Diminishing Returns." This law says that "Economies of Scale" and the "Learning Curve Theory" reach a point where they get less and less important.

In M.U.L.E., you can see how this works if you try to develop a Smithore monopoly. At first, you get high levels of production by locating mines in the Mountains (where there are rich Smithore deposits), and you get the economic bonuses as well.

Eventually, you have to start mining for Smithore in the Flatland to increase your "Economies of Scale" and "Learning Curve Theory" effects. Sooner or later you reach a point where you get more value for giving up the economic bonuses and producing Food or Energy instead.

## The Prisoner's Dilemma

Normally, in a free enterprise system, things work out best if everyone looks out for themselves. However, there are some cases in economics such as "The Prisoner's Dilemma," where everyone loses if players spend too much time worrying about their own fate.

In M.U.L.E., if the colony does not survive, everyone loses. If one player is doing poorly, that player cannot afford to pay high prices to buy all the Energy or Food that you are producing.

## How to Save a Game in Progress

**1** You may save a game in progress at the end of any month (in game time) when you see the Status Summary screen. Press the **Ctrl** key and **Q** key together. Then, follow the instructions that appear on your screen.

You need a blank diskette to save your game. The **Save Game** procedure automatically formats your diskette and will erase anything else on that diskette. After saving a game, **DO NOT** use this diskette for anything other than M.U.L.E., unless you no longer want to use this diskette to play M.U.L.E.

Only one game of M.U.L.E. may be saved on a diskette.

- 2 After your game is saved, you may continue the game in progress just as you normally would. Make sure the M.U.L.E. diskette is back in the diskette drive before starting. Turn off your computer if you wish to stop playing.

## How to Restore a Saved Game

- 1 Insert the M.U.L.E. program diskette and start the game. Choose the **Restore Game** option when you are asked to choose the level of game you wish to play. You see a message that asks you to insert the diskette you used to save your game.

- 2 Once your game is in the computer, you are asked to **put your M.U.L.E. diskette back in the diskette drive.**

A message on your screen appears showing you the setup of your saved game. This screen reminds you which players are using the keyboard and which player is using a joystick. Make sure everyone is seated properly.

- 3 Players confirm their previous character choices by pressing their joystick button or "Move Up" key. You now see the Status Summary screen where you stopped playing.

When the Status Summary screen is displayed, a joystick player can center the joystick by pressing and holding the **Ctrl** key, and then pressing the **J** key.

## The Standard Game

There are several new rules in the Standard game that give you almost unlimited strategies.

Instead of having only 6 months to develop the planet, pioneers have 12 months in the Standard game. Also, the colony must have total wealth (or points) of 70,000, or everyone is left behind on the planet.

Following are the rest of the new rules in the Standard Game.

## Development and Production

In the Development stage, the price of M.U.L.E.s varies from turn to turn depending on the number of M.U.L.E.s available, and the number of undeveloped plots owned by players.

Each game starts with 14 M.U.L.E.s in the corral. When these are gone, they can only be replaced in one way — by players selling Smithore to the Store so it can build more M.U.L.E.s.

The Store needs two units of Smithore to build a M.U.L.E. Needless to say, the price of M.U.L.E.s and of Smithore skyrocket when the Store begins to run short of M.U.L.E.s.

Also, the M.U.L.E. will run away if your character is not over your house when you press the joystick button or the **←** key.

In the Production stage, the amount each plot produces varies from turn to turn. Base Production is only the average production. The actual production varies from zero to eight units, even if the M.U.L.E. has enough Energy.

## Land Auction

In this game, the store may auction land immediately after each Land Grant. The number of plots auctioned each turn averages one, but can vary from zero to three.


- 1 The plot to be auctioned is displayed by a flashing square. After all players press their joystick button or "Move Up" keys, the auction begins.
- 2 To bid, simply move your character up the screen above the minimum price shown. Your bid changes as you move, just as it does in the other auctions.
- 3 When the timer runs out, the player with the highest bid (above the minimum) receives the plot. If no player moves above the minimum bid, the plot does not sell.

The plot will be valued at \$500 in figuring your wealth or net worth during the Status Summary, no matter how much you pay in the Auction.

## Selling Land

Players can auction their own plots of land in the Standard game. If you sell a plot, you receive all the money paid for it. If the plot does not sell, it will not be auctioned again unless you offer it again.

- 1 To mark your land "For Sale," enter the land office without a **M.U.L.E.**
- 2 Exit the office and go to the plot you wish to sell. To help you, the timer was turned off when you entered the land office.

- 3 When you are in the center of the plot, press your joystick button or the  key. You will see a message telling you that the plot has been marked for sale.

- 4 Return to the land office. The plot will be offered in the Land Auction the next turn.

*Selling Land works differently than selling goods.* When the Seller moves the joystick up or down (or presses the "Move Up" or "Move Down" keys) to raise or lower the asking price, the price changes, but *the Seller does not move* on the screen.

The Seller can change an asking price at any time. If the Seller moves the asking price either up or down, the Buyer's bid is automatically rejected, and the Buyer has to move above the asking price again.

When time runs out, the Buyer who is highest, and above the asking price, gets to buy the land. There is no maximum price.

## Product Auctions

In the auctions in the Beginner's game, you could not sell below your "critical level." In the Standard game, you can sell below your critical level if you think it is wise.

An interesting part of the auctions found in all four games, is that when the store has no units, the selling price for a unit of any product may go as high as Buyers are willing to bid. In other words, if one player really wants something, you can make that Buyer pay for it.

Since the size of the screen is limited, it may look as if the player is not moving when the bid price is actually rising fast; so watch the bid price. As long as the Seller does not move down from the top of the screen, no


transactions are made, no matter how high the bid goes. This allows shrewd players to take advantage of their opponents.

One unusual visual effect occurs if one player is bidding very high while other players stop raising their bids; the bidder does not seem to move anywhere and the non-bidders seem to be going backwards.

The reason for this is that it is all relative. The non-bidders last bid does not change, only their relative positions on the screen change.

## Helpful Hints for the Standard Game

1. Conserve cash for the Land Auction. Land is very valuable. Make the other players pay as much as possible for it.
2. Since the number of units produced on a plot varies from turn to turn, you might want to save a little extra Food and Energy as "safety stock," just in case you hit a streak of bad luck.
3. Do not be afraid of losing a **M.U.L.E.** or two, especially if you have been saving up Smithore. If your opponents can't develop their plots because there are no **M.U.L.E.s**, you aren't going to mind, are you? Also, think of what will happen to the price of Smithore.

To let a **M.U.L.E.** loose, all you have to do is get one from the corral, outfit it for Food, leave the town, and press your joystick button or the  key. The **M.U.L.E.** then quickly runs away.

4. You can use several tactics that may put you far ahead of your opponents. For example, if you have Food and the others do not have Food, try buying out the store instead of selling the surplus. This may keep a close challenger from catching you, and next turn, you may have a monopoly!
5. In all games except the **Beginner's** game, the computer player has a chance of catching the Wampus if there is enough time.
6. Watch for the "Fire in Store" random event. When this happens, the price of products increases, particularly Smithore if **M.U.L.E.s** are scarce.

## The Advanced Game

The Advanced Game adds two new features to **M.U.L.E.** The first is *Crystite*, and the second is *Collusion*.

These two small additions turn **M.U.L.E.** into a game that is almost entirely new.

### Crystite




Crystite, which is found underground, is the fourth product available for discovery and development. Crystite production varies with underground contours, rather than with types of terrain like the other products. Crystite, however, cannot be mined in the River Valley because the boggy land makes mining impossible.

In each game, there are always three plots that each have Base Production of three units. These plots are surrounded by other plots with Base Production of two units and one unit.

There are two ways to discover Crystite. You can either install a Crystite **M.U.L.E.** on your plot and hope you have made a good guess, or you can take a soil sample *assay* (analysis) first.

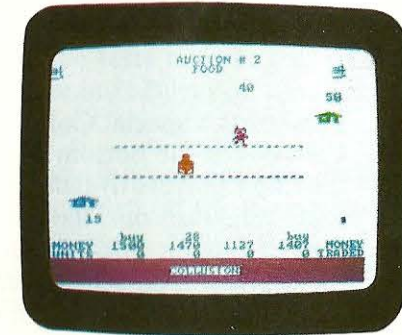
### Taking an Assay

- 1 To take an assay, enter the assay office in town.
- 2 Exit the office and go to the plot you wish to check.

- 3 When you are in the center of the plot, press your joystick button or the  key to get a soil sample. A message will appear if you have successfully acquired a sample.
- 4 When you take the sample back to the assay office, it will report No (0), Low (1), Medium (2), or High (3 or 4) Crystite deposits on the plot.

You may take soil samples of any plot on the map, even those that no one owns yet. However, it might be difficult to find the center of a plot that is not owned because you will not be able to see the shape of the plot. Keep trying because sooner or later, you will get it.

### Collusion



The screen above shows players agreeing to “collude” in a private trade so the leading player cannot buy any Food.

Collusion is a powerful technique that allows players to make private deals. When Collusion is in effect in an Auction, only the players involved can trade and the others are shut out.

Collusion works differently in Product Auctions than in Land Auctions, although the basic approach is the same.

## Collusion in a Product Auction

**1** To start a Collusion during a Product Auction:

**Keyboard Users:** A Seller and a Buyer must press both of their “Move Up” and “Move Down” keys *at the same time*.

To make sure the timing is perfect, you may even have one person press **all four** of the keys (for two keyboard players).

**Joystick Users:** Press the button at the same time the keyboard player presses *both* the keys. You may want to have one person press the button and the two keys to make sure the timing is perfect.

**2** This starts a special Collusion timer, highlights **Collusion** at the bottom of the screen, and causes the other players to fade into the background. Until time runs out, the players involved can concentrate on working out a deal between themselves. The game returns to the regular auction after the Collusion timer runs out.

## Collusion in a Land Auction

In the Land Auction, the Seller (owner of the plot) gets to set the price *and* select the buyer. No prearranged signal or special timing is necessary.

**1** To start a Collusion in a land auction:

**Keyboard Users:** The Seller should press both the “Move Up” and “Move Down” keys at the same time.

**Joystick Users:** The Seller should press the joystick button.

The Buyer on the left will be highlighted and the others will fade into the background. That Buyer is the **only** one who can make a bid on the land.

**2** To select another Buyer, the Seller simply presses **both** the “Move Up” and “Move Down” keys **at the same time**, or the joystick button, to select the next Buyer on the right.

**3** The player selected can raise or lower the bid, while the Seller, at the same time can raise or lower the price. Notice that the house does not move on the screen, but the price changes nevertheless.

**4** If the Collusion timer runs out and the Buyer has met the Seller’s price, that player will get the land. If the Buyer has not met the price when the Collusion timer runs out, the game returns to the normal Land Auction.

**Do not forget**, if the Buyer you select is not going to meet your price, you can always shut that player off and “activate” another Buyer.



## Helpful Hints for the Advanced Game

1. The Advanced game starts with just enough resources to keep the Colony alive for one turn. You also get less time during the Development stage to place **M.U.L.E.s** on your plots.  
  
A good way to offset these changes is to be self-sufficient during the beginning of the game. Try to get one of the River plots for Food, and occasionally take an Energy plot next to the Food plot you have made. These two plots will probably keep you going through the first three to five turns of the game.
2. Crystite prices vary from \$50 to \$150 per unit but are not affected by supply and demand on the planet. The way to make a healthy profit on Crystite is to buy it cheap and sell it high.
3. In the early stages of the game, look for Crystite by assaying plots if you have extra time. You should look for Crystite rather than hunt for the Wampus.
4. It is better to group plots together around a low or medium producing plot than to go for the plots with high concentrations of Crystite.

You can produce much more Crystite by taking advantage of the "Learning Curve Theory" and "Economies of Scale," than by going for the high concentrations and scattering your land holdings.

5. Be aggressive about transferring and re-outfitting **M.U.L.E.s**, especially near the end of the game. You can often win during the last one to three turns by quickly converting all your plots to the product selling at the highest price (usually Crystite).

6. Trade land by using Collusion! If you can talk one of the other players into trading a plot you need, arrange a private deal through Collusion.
7. The Pirate Ship is very dangerous in the Advanced game, because it plunders all the Crystite. Fortunately, no more than two Pirate Ships ever arrive during a game. If, for example, no Pirate Ship has arrived by the ninth turn and you have 50 units of Crystite in storage, **SELL!**
8. The computer player(s) in the Advanced game receives an extra \$200 to offset your superior play. Try playing the *Humanoid* (advanced) character against the computer. You will find it difficult to beat the computer.

## The Tournament Game

The Tournament game adds several new features to **M.U.L.E.** These changes test the skill of even the best pioneers. The Tournament game should only be played **after** you are comfortable with the Advanced game.

### Starting the Tournament Game

When you select the Tournament game, you are asked to choose the number of months (game turns) you wish to play. You may choose games lasting from six to twenty-four months, in “steps” of three months. Press the **Alt** key until your choice is shown, then press the **←** key.

### Choosing Length of Time and Amount of Money

After you choose the character you want, you are given the option to select the length of your Development stage time bar and your starting amount of money.

The possible amounts of Development time are:

- **Short** — Equal to the amount of time the “Humanoid” character receives in the other game versions.
- **Normal** — Equal to the “normal” amount of time that most characters receive.
- **Long** — Equal to the amount of time the “Flapper” (Beginner’s character) receives.

Press the **Alt** key until your choice appears, then press the **←** key.

You now select the amount of money for your character. Your choices range from \$600 to \$1600 in increments of \$100. Again, press the **Alt** key until your choice appears, then press the **←** key.

These options let you create some very interesting game situations. If you are playing with **M.U.L.E.** experts, try playing a 24 month game. Set the Development time to short and start everyone with \$600. This separates the true pioneers from the novice pioneers in a hurry!

### Land Grant

The Land Grant stage will not always happen. If you choose a game lasting twelve months or less, you get a Land Grant every turn while there are plots left, just like every other version of **M.U.L.E.** The longer a game goes beyond twelve months, the less chance there is for a land grant.

If a Land Grant does not happen, there will be no Land Auction. Players’ plots that are scheduled to be auctioned that turn, will be auctioned after the next Land Grant. Land now becomes even more valuable than before. Pick your plots wisely, and do not miss out on free parcels of land when the Land Grant does occur.

### The Supply Ship Returns

A new random event occurs in the Tournament game—the returning of the Supply Ship. This event is in addition to random events that may normally happen.

If the Supply Ship should return, the price of Crystite is doubled for that month only. Crystite is a very valuable mineral on other worlds, and is used to power the faster-than-light spaceships that brought you here in the first place. Try to store up your Crystite until a Supply Ship arrives, but watch out for Space Pirates!

One of the more frustrating events that may occur is the arrival of the Supply Ship, followed by the random Pirate Ship event. Space Pirates have no fear of the Supply Ship and, in fact, will even plunder the Supply Ship if there is one present when they attack. Life in the Universe is tough.

## The Hawthorne Effect

As you will discover, **M.U.L.E.s** are very temperamental. In the Tournament game, **M.U.L.E.s** slowly stop producing goods for you unless they receive the proper care and attention.

Just before the Production stage, every developed plot on the map will be checked for a **M.U.L.E.** degrading its production.

If a **M.U.L.E.** should degrade, one unit is subtracted from the Base Production of the plot. One "block" will be removed from the small "blocks" in the lower right corner of your plot which indicate your Base Production.

It is very easy to restore a degraded **M.U.L.E.** to normal. During your Development stage, simply go to the degraded **M.U.L.E.**, pick it up as though you were going to transfer it, and walk the **M.U.L.E.** around for a while.

This extra care and attention will restore your **M.U.L.E.** to its normal Base Production. Installing or transferring a new **M.U.L.E.** also restores the Base Production to normal.

The act of "walking" your **M.U.L.E.** around is a simplification of the *Hawthorne Effect*. The theory behind the *Hawthorne Effect* is: Any positive or beneficial changes to a worker's working conditions increase the productivity of the worker.

## Helpful Hints for the Tournament Game


1. Selecting your plots of land is crucial in long games. If you are forced into getting a piece of land that is marginally valuable to you, try to make a trade with another player for a plot that you can use. Use Collusion to make land trades and be crafty!
2. Watch out for degrading **M.U.L.E.s**, especially near the end of the game. Your production may have decreased because you missed seeing a **M.U.L.E.** degrade in a previous month. If you have free time at the end of the Development stage, go ahead and "walk" a few **M.U.L.E.s** around.
3. Beware of the Pirate Ship, because there is no limit to the number of times it may appear in the Tournament game.

## Hints From the Program's Authors

1. If you happen to find yourself in a winning position, and in possession of the only surplus Energy in the colony, pause for just a minute to remember all those times when the other players helped you out. Think about the good of the entire colony, and then . . . Don't Sell!
2. As the game begins, get into Smithore, grab a Mountain plot next to the River, and then tell the other players that you missed the River. Mumble something about the need for Food production. This usually convinces at least two other players to buy River Land to develop Food.

Then, don't sell Smithore to the store. You want demand to go up and the store's supply to go down. When the other players start to notice, coast another turn by telling them that you accidentally moved to the Buyer position when you were trying to be a Seller. By the next turn, the other players will start to get suspicious and will start selling all their Smithore to keep the price down.

Keep a low profile, wait until the other players are almost to the store, then step up to the store's Buy Line and buy all the Smithore that you can.

By this time, everyone realizes what you are doing. On the next turn, don't develop at all and let the **M.U.L.E.s** go free. Grab a **M.U.L.E.**, outfit it for Food, step out of town, and press your joystick button or the  key. If you are quick, you can set at least four **M.U.L.E.s** free. The price of Smithore should jump to over \$200 and you have just gained the upper hand. Now, sell all your Smithore at the next auction.

## Important Symbols

Here is a list of the most important symbols used in **M.U.L.E.**, and an explanation of what they mean:

- **Food** - Food determines the amount of time you have during Development. Average production of Food in the River Valley is four units, in the Flatlands, is two units, and in the Mountains, one unit.



Food prices range from \$15 to \$255. The outfitting cost for a Food-producing **M.U.L.E.** is \$25. Food spoilage is 50 percent of your remaining stock in storage.

- **Energy** - Energy is used in the production of all products except Energy itself. The amount you need is based on the number of non-Energy plots with **M.U.L.E.s** plus one.



Average production of Energy in the Flatlands is three units, in the River Valley is two units, and in the Mountains is one unit.

Energy prices range from \$10 to \$255. The outfitting cost for an Energy-producing **M.U.L.E.** is \$50. Energy spoilage is 25 percent of your remaining stock in storage.

**Smithore** - Smithore is used in the production of **M.U.L.E.s** in the Standard, Advanced, and Tournament games. The store produces one **M.U.L.E.** for every two Smithore units it buys from players.

Average production of Smithore in the Mountains is one unit plus the number of mountain symbols in your plot (one to three mountain symbols). Average production in the Flatlands is one unit. You cannot mine Smithore in the River Valley.

In the Beginner's game, Smithore has a fixed price of \$50. In other games, Smithore prices range from \$20 to \$255. The outfitting cost for a Smithore-producing **M.U.L.E.** is \$75.

You may not store more than 50 units of Smithore during any turn. Any stock in storage over 50 units is lost to spoilage.



- **Crystite** - Crystite can only be found when playing the Advanced and Tournament games. All Crystite that is found is shipped off the planet.

Production of Crystite varies with underground contours rather than with types of terrain. There are always three plots with Base Production of three units, surrounded by other plots with Base Production of two and one. You cannot mine Crystite in the River Valley.

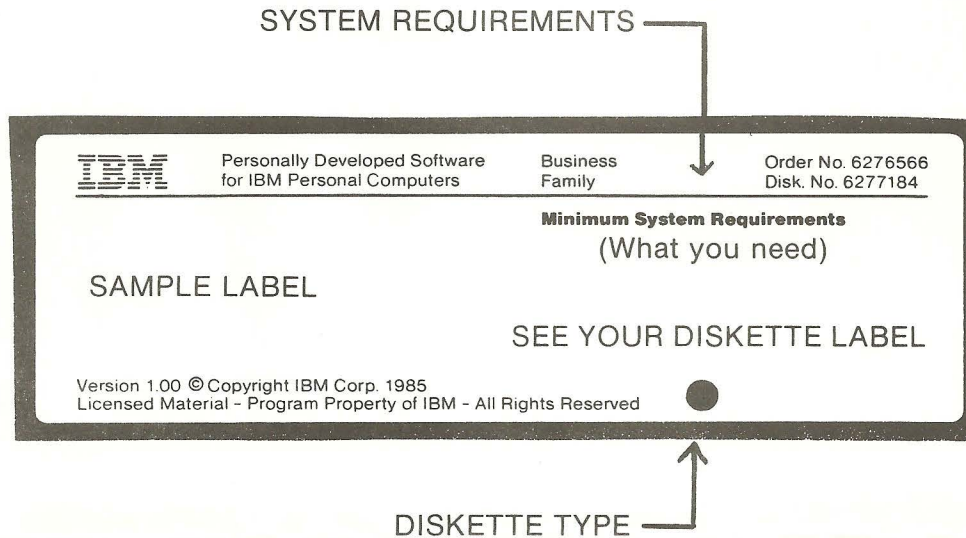
Crystite prices range from \$50 to \$150 in the Advanced game, and \$50 to \$300 in the Tournament game. The outfitting cost of a Crystite-producing **M.U.L.E.** is \$100. Like Smithore, you may only store 50 units of Crystite from one turn to the next. The balance is lost to spoilage.



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