CLUE: A Plant "Who Done It" Myster7

Introduction and audience: The basic activity is to diagnose sick plants using the classic board game Clue as a model. The goal is for the players to evaluate symptoms of a sick plant and determine which stress condition caused the response. The game would be suitable for a general audience of people interested in gardening or raising plants, but could also be used in classrooms (middle school and up) to discuss plant responses to abiotic and biotic stress conditions. The game was developed by students in upper-level plant physiology course, as a fun introduction to understanding abiotic and biotic stress responses in plants.

Educational message: The game begins by randomly selecting one plant as the "victim". The victim card has an image of the plant on the front. The back of the card contains the answer to the crime, but also has an explanation of the plant response to that particular stress condition. For example, the houseplant with dead (necrotic) leaf tips, is the example of potassium deficiency. For the game, the stress conditions include flooding/hypoxia, salinity, wounding/herbivory, chilling, high light, and mineral deficiency. Each plant victim has 3 hint cards that provide clues to the location, suspect, and cause of the condition. All hint cards are mixed, then distributed among the players. In this way, the player has a variety of hints concerning the physiological response exhibited by the plants under stress conditions.

Activity overview: The game is played is a similar manner to the Clue board game. There are up to 6 players, 6 colored game pieces with a color representing each of the suspects, 6 possible locations for the crime, and 6 types of causes (i.e., "weapons"). The main difference in game play is that for each victim, there is a single location, culprit, and cause. This way the focus is on plant response and less random than the original game. This strategy also reduces the time to play the game since it is not intended to be as long as a full board game.

Game play: At the beginning, one plant "victim" card is selected at random and placed photo-side up on the playing board. One person acts as the moderator who knows the identity of the suspect, the location, and the cause of the plant stress. Each player selects a token based on the list of suspects: Captain Bluet, owner of the mansion; Dr. Peach, friend and neighbor of Capt. Bluet; Mr. Lemon, grounds keeper; Mrs. Rose, gardener; Mrs. Olive, cook; and Miss Violet, housekeeper. The hint cards are shuffled and distributed among the players. The players place their game piece at the locations closest to them. They move around squares on the board based on the throw of the dice to get to the room where they think the crime was committed. On their turn, each player may make an accusation and propose a suspect and cause for that room. The player making the accusation shows one card and selects the weapon to support their accusation. The moderator will let the accuser know if the play makes the correct accusation. If the accusation is partially correct, the incorrect hints are eliminated and the correct hints are put with the plant. The winner is the first person to correctly determine 1) the cause of the sick plant, 2) where it is located, and 3) who caused the condition.

Variations: The time to play the game can vary depending on how it is used. For example, after the first correct accusation, another sick plant can be chosen. At this point, the hint cards from the first plant can be removed or put back into play. Alternatively, different teams can solve for the different plant problems, then compare the different responses in a group discussion.

Plant Clue: Can you determine who made this plant sick?

Suspects:
Captain Bluet - Owner of the mansion
Dr. Peach - friend and neighbor or Capt. Bluet
Mr. Lemon - grounds keeper
Mrs. Rose - gardener
Mrs. Olive - cook
Miss Violet - housekeeper

Causes (Weapons in the old Clue game):
Drought: water can
Salinity: saltshaker
Wounding/Herbivory: deer
Cold: snowflake
High light: sunglasses
Mineral deficiency: Rock

Rooms:
Kitchen with door to the outside leading to the garden.
Library with door to the hallway to the kitchen.
Garden – path from the kitchen
Gazebo – path from garden
Greenhouse – next to library
Orchard- far end of the yard

Players: up to 6 players [6 colored game pieces for each of the suspects].
Rules:
- At the beginning, one plant card is selected at random and placed photo-side up on the playing board. A moderator knows the identity of the suspect, the location, and the cause of the plant stress.
- Each player selects a token.
- The hint cards are distributed among the players.
- The players place their game piece at the locations closest to them.
- The first roll of the dice determines who starts the game. The highest roll starts the game. After the player with the highest roll takes their turn, the game should go clockwise for the remaining turns.
- Players move the number of spaces based on the throw of the dice. It is important to note that players have free roam throughout the game. That is, players are allowed to move forward, backward, left, and right as there is no set direction for movement.
- On their turn, each player may make an accusation and propose a suspect, cause, and room. The player making the accusation shows one card and selects the weapon to support their accusation. The player's token must be in the room they suggest.
- The moderator will let the accuser know if the play makes the correct accusation. The incorrect hints are eliminated and the correct hints are put with the plant victim. After each accusation, players are encouraged to discuss why some of the hints were thrown out.
- The winner is the first person to correctly determine the cause of the sick plant, where it is located, and who causes the condition.
- The game can continue with another sick plant, removing the hint cards already used. Or, different teams can solve for the different plant problems, then compare in a group discussion.