Introduction to Plant Breeding Learning Activity: Soybean

Type the following address into an internet browser.
http://articles.extension.org/share/PBG/soybeanbreeding/PlantBreeding.html

While viewing the animation, answer the following questions.

**Step 1. A Soybean Breeder’s Goal**

1. What effect does rust have on soybean?
2. What are the current options for soybean rust control?
3. What characteristics make biodiesel an environmentally friendly option?

Click continue

4. What colors are some of the wild relatives of the modern soybean varieties?

Click notebook icon at lower left hand corner of screen.

Click back to main menu

**Step 2. Selecting Parents and Making Crosses**

5. How are the parents chosen?
6. Why do breeders make numerous crosses?
7. Do soybeans have perfect or imperfect flowers?
8. Does the male or female part of the flower develop first? Why is this important?
9. How is flower for pollen selected?
10. Why are the petals removed?

Click notebook icon at lower left hand corner of screen.

Fill in the Breeder’s Notebook

Click back to main menu
Step 3. Growing Offspring of Parental Crosses
11. How many chromosomes do each of the parents donate?
12. What is this generation called?
13. Why are plants planted further apart in this stage?
14. How is the F2 generation produced?

Click notebook icon at lower left hand corner of screen.

Fill in the Breeder’s Notebook

Click back to main menu

Step 4. Growing the Second Generation and Making Selections
15. In this stage, what characteristics will cause the plant to be thrown out?
16. What is culling?

Click How to Make Selections.

17. How are molecular markers helpful to plant breeders?

Fill in the Breeder’s Notebook

Click back to main menu
Step 5. Continuing Evaluation and Selection

18. How is the F3 generation made?

19. What type of lines is the breeder searching for?

Click notebook icon at lower left hand corner of screen.

Fill in the Breeder’s Notebook

Click back to main menu

Step 6. Further Evaluation

20. Why are other top lines kept in the breeding program?

21. Why is it important that lines are testing in different environments?

Click notebook icon at lower left hand corner of screen.

Fill in the Breeder’s Notebook

Click back to main menu

Step 7. Release a Line

22. What happens once the seed is increased?