Seedsaving: Preserving the Legacy Planning for Next Year

Maine Learning Results: Science:D4, J1

Purpose: To save seeds from this year's garden for planting the next season. To teach the concept of seed saving and method of saving tomato seeds

Key Concepts:

- The fruit of what we grew last year holds the seeds that we need for next year. Because we have successfully cared for this plant, we can reap the benefits and grow food again next year.
- We want to save seeds from plants that we liked the best; the biggest, tastiest, fastest growing, because the seeds from these plants are most likely to resemble their parents and grow into plants that we like next year.
- All of our food crops were once wild plants. By selecting seed and saving it to replant we are participating in an ancient relationship with our food crops. We get to experience the interdependence; they need us to grow, and we need them to live.

Note: First of all, this activity must be done with open-pollinated, heirloom varieties. Hybrids, which many of our crop varieties are today, will not produce offspring predictably like their parents. Seedsaving can be done with all food crops, but I recommend starting with tomatoes because they do not cross pollinate and you don't need to do any fancy planning etc. For further reading on seedsaving or to learn the specifics for other crops check out Suzanne Ashworth's book Seed to Seed*. Open pollinated, heirloom varieties of tomatoes and other crops are available through FEDCO seeds (www.fedcoseeds.org), or through Johnny's Selected Seeds, or from Medowmak Valley High School in Waldoboro, or from the Seed Savers Exchange. Or go to your local farmer's market in the late summer and fall and you will find heirloom tomatoes that you can save the seed from.*

Activity:

- Step one is to go out into the garden and find the tomato plant that you want to save seed from. Look for the strongest, fastest growing, tastiest etc., decide together on the traits that are most important to you, and choose fruit from the plant that best embodies them. This is a good basic genetics lesson for kids. Kids take after their parents in many ways, and the same is true of tomatoes, so when we choose the best one for us, we are expecting to see those traits that we admire in it's offspring.
- Then bring the tomatoes in, wash them off, and put them on the cutting board. Ask the students, "What does a seed need to grow?"; moisture, warmth. Ask, "What do you think it is like in the middle of a tomato?" It's probably moist and warm. "Why don't tomato seeds start to grow in the tomato?" And probably no one knows the answer to this one, but it is because tomatoes are smarter than you think. They actually have this stuff, a natural inhibitor that occurs on the seeds. This inhibitor can't be washed off, and until it is removed the tomato seeds won't germinate. The inhibitor can only be eaten away by the bacteria produced as the tomato rots.

- The next step is to cut open the tomatoes, squeeze the juice and seeds out into some quart mason jars. Then LABEL THEM, then fill the jars about 2/3 full with water, and cover them with cheese cloth. Then you leave them for 3 days to a week in a warm place. As the mold grows on the rotting tomatoes, the inhibitor will be eaten off and the viable seeds will sink to the bottom.
- Once it looks like a nice little collection of clean seeds has accumulated on the bottom, pour the moldy stuff off the top and keep adding water and letting the seeds settle and then pouring the yuck off the top until just the clean seeds remain on the bottom. Pour these seeds into a sieve, then dump them on newspaper and spread them out to dry in a sunny, dry place. Once they are totally dry, put them in a small jar and keep them in a cool, dark place until planting time.

Follow Up Activities:

- Tomatoes were domesticated in warm, tropical areas (Latin America). When they were ripe, they fell to the ground and rotted. From the rotting fruits, new fruits grew. How do you think that these plants were domesticated by hunter, gathering peoples? Would they have noticed this cycle? As a seedsaver, one really needs to know the life cycle and the ancestry of the plants that one is trying to save seeds from. Doing a creative writing exercise about imagining the first tomato seed savers could help recreate this historical world for youth. Or doing research projects on particular plants and where they come from and how they might have been domesticated.
- There are a lot of different ways that one could go with this exercise: genetics, plant origins, plant life cycle, cultural uses of plants, chemical responses in the actual process of the fruit rotting, ancient civilization and the origin of agriculture.
- On the *Restoring Our Seed* website, Eli Kaufman has a curriculum guide called *Seed to Seed* that is downloadable for free and full of activities for K-8.
- This activity lends itself well to discussing the importance of preserving diversity in food plants. 200 years ago nearly everyone was a seedsaver and grew much of their own food. Now it is a dying art. In the last century we have lost more than 75% of our crop diversity! There is a recent resurgence in interest in preserving these varieties. Why might it be important to preserve diversity in food crops?

Materials: cutting board, knife, mason jars, cheesecloth, rubber bands, heirloom tomatoes.