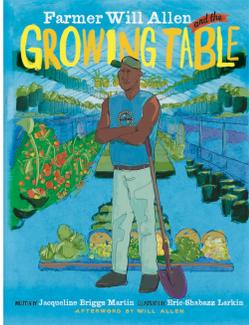


Planting with Castings



Time:
40 minutes

Alternative:
If a volunteer reader is not able to visit a classroom, a recording of the book is available to show your classroom.

Join NYS Assemblymember Jaime Williams of Brooklyn to hear her reading of this year's book.

Vermicomposting:
Chief Worm Wrangler Bill Richmond of the Adirondack Worm Farm opens his commercial worm farm for our program.

Watch our video sharing his story and showing his compost operation to learn more about vermicomposting.

View our online resources by holding your phone's camera over the code below or visit agclassroom.org/ny.



Program Notes

Agricultural Literacy Week 2022 celebrates that agriculture is a unifying factor in communities across our state. Whether farming in unique urban spaces or rural landscapes, food brings people together. Read the story of Farmer Will Allen and help students understand that a love for growing food and stewardship for our soil and natural resources can be found everywhere.

- Introduce yourself and your connection to agriculture. Read the book *Farmer Will Allen and the Growing Table*.
- After reading the book, transition into the below activity.

Materials

- Seed Tray
- 4 Plant Tags, labeled 1:1 (50%), 1:4 (25%), 1:8 (12.5%), Control (0%)
- 1 Gallon Bag of Potting Soil
- 1 Gallon Bag of Worm Castings
- 1 Measuring Cup
- 1 Mini Spray Bottle with Water
- Seeds

Activity Procedures

Interest Approach (5 minutes)

1. Ask students what the word *recycling* means.
2. What happens to leaves in the forest in autumn? (*They fall to the ground.*) Why don't the leaves pile up higher and higher? (*They break down/decompose and become part of the soil.*)
3. Explain that food can be recycled in the same way leaves are recycled in the environment. Food can be recycled into a special soil that can give plants the nutrients they need, and the secret to creating the special soil is worms. Red wiggler worms helped Farmer Will Allen transform the soil in his community farm.

Planting Activity (15 minutes)

1. Ask students what they think red wiggler worms would like to eat. (*Food scraps from fruit, vegetables, and grains; coffee grounds and filters, fallen leaves, eggshells, lawn clippings. Meat and dairy are not recommended.*)
2. Share with students that worms love to eat, and the nutrients from the food the worms eat create the product that comes out of the back end of the worms. The castings (poop!) are very healthy for plants and can be added to soil to help plants grow.
 - a. Show students an example of the worm castings.
3. Many people start their seeds in potting soil. Potting soil is a good place to start seeds, but it does not have much nutrition for the young plants.
 - a. Show the students an example of potting soil.
 - b. What are some of the differences students see between potting soil and worm castings?
4. Explain that the class is going to set up their own experiment to determine if worm castings affect plant growth. We are going to add different amounts of worm castings to potting soil, and then they will be able to watch the seeds grow over the next few weeks.



Lesson & Extension Activities

Activity Procedures, continued:

- Using the small water spray bottle, spray the soil and castings in their bags until just damp.
- In the measuring cup add 4oz of potting soil. This is our control in the experiment; no worm castings are being added. Add the soil to a row of 3 in the seed tray, sprinkle seeds on top and lightly cover. Add the “control” plant tag to row.
- In the measuring cup add 2oz of potting soil, and on top of the potting soil add 2 oz of worm castings. Gently combine, add the soil to a row of 3 in the seed tray. Sprinkle seeds on top and lightly cover. Add the “1:1 50%” plant tag. Reiterate that this row has half potting soil and half worm castings.
- In the measuring cup add 3oz of potting soil, and on top of the potting soil add 1oz of worm castings. Gently combine, add the soil to a row of 3 in the seed tray. Sprinkle seeds on top and lightly cover. Add the “1:4 25%” plant tag to the row. Reiterate that this row has less worm castings than the last row we prepared.
- In the measuring cup add 3.5oz of potting soil, and on top of the potting soil add .5oz of worm castings. Gently combine, add the soil to the last row of 3 in the tray. Sprinkle seeds on top and lightly cover. Add the “1:8 12.5%” plant tag. Reiterate that this row has the least amount of worm castings of the last 2 rows.

Engage the students in setting up the experiment. Ask students to come up and help you measure, ask students to place the plant tags, fill the trays with the soil mixtures, and plant the seeds.

- Ask the students what row they believe will grow the healthiest plants? Why?
- Spray the tray with water if needed; leave the spray bottle with the classroom. Put on the lid to the tray and leave it with the students.
- Remind the students to observe, measure, and record the plant growth every few days for the next 2-4 weeks to determine which ratio of worm castings is most beneficial.

Conclusion (3 minutes)

- What are 2 examples of foods we can feed to worms instead of throwing away?
- When worms eat the food in their environment, what do they produce? (*Nutrient-rich castings*)
- How are worm castings different from potting soil?

Classroom Vermicompost Resources

Worms are a great addition to a classroom environment, and additionally, they produce a great nutrient-dense addition to your school garden. Two full lesson plans for grades K-2 and 3-5, along with full instructions for building a classroom worm bin.

Follow the QR code below to access the lessons.



National Agriculture in the Classroom Conference

New York Agriculture in the Classroom is the proud host site of the National Agriculture in the Classroom Conference to be held in Saratoga Springs from June 28-July 1, 2022.

Earn up to 28 hours of CTLE credit for your full participation in the premier professional development conference for teaching through a lens of food and agriculture.

Scholarships are available and due April 15, 2022, on agclassroom.org/ny.



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