

LEARNING WITH *Sweetpotatoes*



Mini-Lesson

Sprouts – Sweetpotato Ag Mag Edition

Agriculture Education, Horticulture 1, Grades 9-12

Mini-Lesson Focus:

- Growing sweetpotatoes

Materials:

- Soil
- Sweetpotato (preferably an uncured sweetpotato)
- Nursery pot/bucket
- Small watering can
- Small spade
- A piece of black plastic (a trash bag will work)

Procedure:

1. Begin the min-lesson by showing students a sweetpotato. Ask, “Does this start as a seed, a sprout or cutting, neither or both? Discuss your idea with someone near you, and provide a reason why.” *Most students will assume a seed; some will identify as a sprout/cutting.*
2. Ask students to discuss the anatomy and functions of a plant
3. Share the digital version of the [NC Sweetpotatoes Ag Mag](#). You may also purchase [classroom sets](#).
4. Students will plant sweetpotatoes.
 - Step 1: Dig a hole.
 - Step 2: Put the sweetpotato down into the cool soil.
 - Step 3: Throw soil on top of the sweetpotato.
 - Step 4: Pat it down flat and firm, not too hard.
 - Step 5: Water lightly with the watering can.
 - Step 6: Cover with plastic, and make sure there are holes in the plastic.
5. Students will conduct initial observation and make an educated guess on what will happen in two days and in two weeks of planting. Note: In approximately four weeks, sweetpotato sprouts will have reached about 8-10 inches tall and produce several leaves. At this point, it is time for transplanting (replanting in a different location). Carefully remove the sprouts by giving them a twist or cutting them with

a knife or scissors (with teacher's supervision). Allow each student to receive a sweetpotato sprout.

6. Transplant the sprouts. Have students make note of the soil type and test the pH of the soil before planting. Sweetpotatoes need to be grown in well-drained, sandy, loamy soil. Prepare the soil by tilling and applying fertilizer (Miracle-Gro is sufficient). Plant the sprouts 9-10 inches apart in the center of a ridge row at a depth of about 3 inches with at least 2 plant nodes (part of plant that will become a leaf/stem) underground and 2 or more leaves above ground. Plants will need water immediately after transplanting.
7. Students will take notes about the process of the plant root system and how important a good root system is to the growth of sweetpotatoes and all plants alike. Additionally, have students discuss the role of ATP, active transport, concentration gradients, and diffusion. The roles of each play a part in the growth of a plant.

Standard Subsets:

NCCTE.AP41.03.00 - Summarize plant anatomy.

NCCTE.AP41.03.01 - Discuss biological terms used to describe plants.

NCCTE.AP41.03.02 - Discuss the anatomy and functions of plants.

NCCTE.AP41.04.00 - Examine factors relating to plant growth and development.

NCCTE.AP41.04.01 - Explain the growth process of plants

NCCTE.AU10.02.00 - Understand global agriculture.

NCCTE.AU10.02.01 - Understand the history of global agriculture.

NCCTE.AU10.02.02 - Compare the current and future issues in global agriculture.

NCCTE.AU10.03.00 - Understand the plant industry.

NCCTE.AU10.03.01 - Remember careers in the plant industry.

NCCTE.AU10.03.02 - Understand biotechnology in the plant industry.

NCCTE.AU10.03.03 - Understand basic horticultural (ornamental, fruit, and vegetable) and agronomic principles and practices.

NCCTE.2020.AU22.03.01 - Understand local and regional food systems.

NCCTE.2020.AU22.03.02 - Understand how sustainable agriculture globally contributes to feeding a growing population.

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