

Cover Crop Monsters

Grade Level(s)

2nd grade

Estimated Time

30 minutes

Purpose

Students will begin to understand the purpose and methods of using cover crops to maintain soil and water integrity.

Materials

▪Links:

Website with virtual resources: www.linncoag.com -2020/21 virtual learning drop down tab- February

Book “Sleep Tight Farm,” by Eugenie Doyle:

Instructional video: [Cover crop monsters - YouTube](#)

Cover crop experiment video <https://www.youtube.com/watch?v=jMxCFhP0uxk>

Optional: Listen to Residue <https://www.youtube.com/watch?v=dawVo5L9-e0&t=98s>

▪Worksheets:

Review worksheet

▪Other:

Panty hose

Soil

Grass seed

Rubber bands

Eyes

Small cup

Vocabulary

Cover Crop – Crop grown for the protection and enrichment of the soil.

Interest Approach – Engagement

Apple Earth demonstration

1. What is soil erosion and how does it occur?
2. Are there many ways to reduce erosion? (Conservation practices like no-till farming and cover crops that help keep soil in place).

Background - Agricultural Connections

In Iowa, rye (grass grown as a grain) is one of the most popular cover crops because of its quick germination. The seed is sometimes flown on with an airplane while the main crop is still in the field. This gives the cover crop a chance to grow before the main crop is harvested, minimizing soil erosion. Other popular cover crops are radishes and red clover. Cattle can graze cover crops, too. This reduces the feed that may need to be supplied to cattle.

Procedures

1. Watch the instructional video- link provided above.
2. Read or watch the read aloud video: Sleep Tight Farm- link provided above
 - How did the farmers prepare for winter?
 - How did they care for their animals? Soil?
3. Watch the cover crop experiment video- link provided above.
 - What is a cover crop?
 - How can cover crops protect the soil?
 - Explain the experiment (bare soil, soil with sticks and leaves, soil with planted grass or cover crop).
 - What is a cover crop? We need to seed (planter, aerial, drilling, etc.) in the cover crop and terminate it (kill it off or harvest it when we are ready to plant in the spring (herbicides, grazing, tillage, or they die in the winter). The roots of the cover crop help hold the soil in place. The growing plant can also hold nutrients so that they aren't lost to leaching. As the cover crop decays the nutrients are released back into the soil for the growing cash crop.
4. Make cover crop experiment.
 - Fill the toe of your sock with a teaspoon of grass seed. Top it with damp soil until it forms a ball. Fasten with a rubber band.
 - Form and pinch a nose- use a rubber band. Add two eyes.
 - Place the monster in a cup and add water.
 - The monster should sprout in 3-4 days.
5. Pass out review sheet
 - Answers:
 - 1) B
 - 2) A
 - 3) A
 - 4) C

Additional resources: <https://iowaagliteracy.wordpress.com/2016/02/29/cover-cropping-why-do-they-do-that/>

Organization Affiliation

Original lesson plan IALF Cover Crop Monsters was modified by Morgan Hibbs of Linn County Farm Bureau.

Agriculture Literacy Outcomes

T1.K-2.c Identify natural resources

T2.K-2.e Identify the importance of natural resources in farming

T2.K-2.a Explain how farmers/ranchers work with the lifecycle of plants and animals to harvest a crop.

Iowa/ Common Core Standards

2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow.

2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.