COWS, CHICKENS AND PIGS, OH MY!

GRADES 3-8

This activity was designed as a companion for the music video "Old MacDonald Had A Farm."

BACKGROUND

This video takes the classic Old MacDonald song and showcases conservation practices that can be used on farms to protect natural resources. These conservation practices are important in building healthy soils and keeping water clean for Iowans in the present and future. In Iowa most of our farmland is producing crops such as corn and soybeans. We are the #1 producer of corn and soybeans compared to all other states in the US! However, intensive tillage of farmland leads to compaction, loss of helpful organisms and leaves soil bare and prone to erosion. By practicing no-till or strip-till (tilling only a strip for planting), the majority of the plant residue stays on the land to protect the soil. These reduced-tillage practices lead to less erosion and runoff, more infiltration, more organic matter to build healthy soils, and a better habitat for helpful organisms such as earthworms.

The strategic planting of grasses (e.g. buffer strips) is another conservation practice that protects soil from erosion, while the grasses act as filters to remove pollutants from water flowing over the grass or underground through the root system. Riparian buffers use grass along the sides of a stream for bank stabilization and to slow down the movement of runoff water. The deep and dense root systems of switchgrass, bromegrass, and other perennial vegetation species can catch pollutants before they get to the stream. Grassed waterways provide paths for water to run off fields in areas where deep gullies would otherwise develop.

Wetlands are unique ecosystems that provide habitat for many endangered plants and animals in Iowa. Wetlands act as the kidneys of the landscape because the plants, soils, and microorganisms remove nutrients and pollutants from the water passing through. In droughts, wetlands can sustain streams by slowly releasing water, and they act like sponges during periods of heavier precipitation.

Cows and pigs are common livestock on farms in Iowa and we most easily relate them to the meat and milk they provide for our diets. There are different ways we can manage livestock to reduce the pollutants they might add to our waters. If cows are grazed over a small area for a long time, they will compact the soil and overgraze the grass. This can negatively impact the health of the soil, leaving it more prone to surface runoff and erosion that will pollute water. Livestock also shouldn't be allowed unlimited access to streams because their pathways increase erosion and using the stream as a bathroom will lead to bacterial contamination. Manure from livestock can also be used to fertilize crops as they are a good and available source of nutrients. Like all fertilizers, however, it is important to be careful with applications. Applying more fertilizer than the crops need or applying before a rain will lead to excess nutrients leaving the field and polluting waterways.

While most people identify Iowa agriculture with corn and soybeans, livestock also plays a large role in the state's agricultural businesses. Iowa is #1 in hogs and egg production in the United States and also is ranked highly in cattle and dairy production. Livestock contribute to many products that we use every day but may not be aware of the origin. In this activity students will research an animal and learn what products they eventually become.

MATERIALS

Old magazines, newspapers, grocery ads
Scissors
Glue
Poster board for each group
Markers/crayons

DID YOU KNOW?

Livestock Numbers in Iowa:

- 4 million cattle
- 20 million hogs, almost 27% of nation's hogs
- 67 million chickens, 22 times more chickens than people
- 195,000 sheep
- 30,000 goats

INSTRUCTIONS

- Divide students into groups of 4-5 and assign them an animal (cows, pigs, chicken, sheep, or goats) to research. Research should be focused on the products that come from the assigned animal.

- The group can then find pictures of the products they identified in old magazines, newspapers and advertisements. As a group then can create a collage of the different products along with information about the animal itself.

- The collages can be presented or displayed in the classroom so the students can share the different information they learned.

- Follow-up: Lead a group discussion or instruct students to write individual one page reflections on the activity, identifying what they learned, what surprised them, and how Iowa livestock impacts their daily lives.