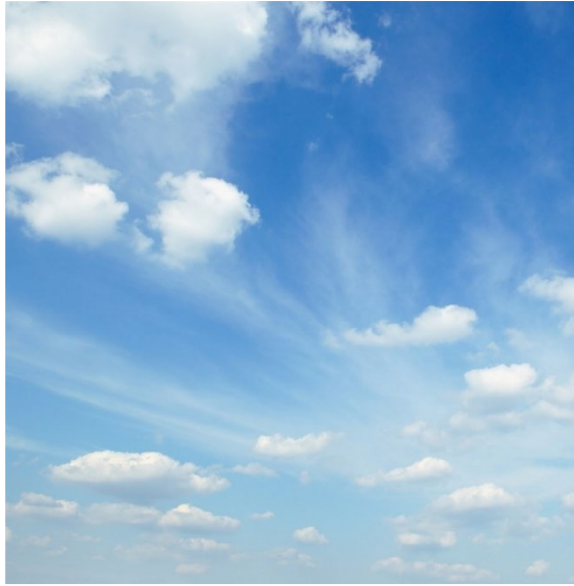


A stylized landscape illustration featuring rolling green hills in various shades of green and brown. On the left, there is a green tree, a purple flower, and an orange flower. A small red bird is flying in the sky. The background consists of layered blue and white wavy lines representing the sky.

Environmental Expressway

All About Sustainability in Dairy

To feed the world,
we need...



Air



Water



Soil

natural resources -materials or substances found in nature that are
necessary or useful to humans

Are natural resources unlimited? **NO**

Can we make or get more? **DEPENDS**

Two Types of Natural Resources

renewable resource that is always being replaced and will not run out

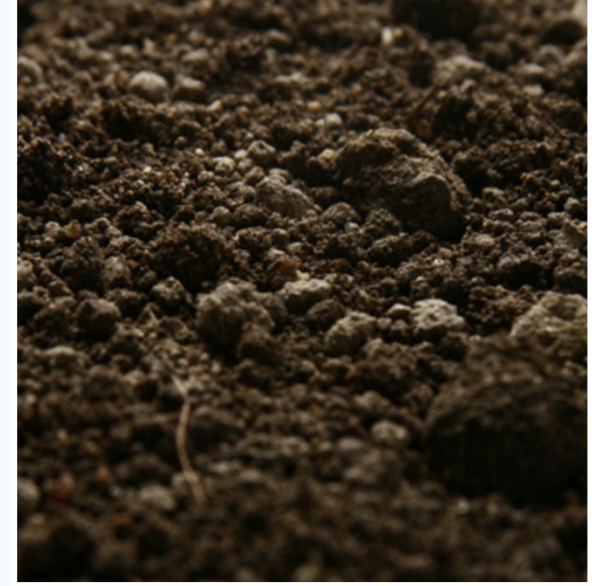
nonrenewable resource that cannot be replaced quickly enough to keep from running out

These natural resources are necessary for survival

Air

Water

Soil



How can we protect them?

conservation protection and care of natural resources

Farmers need these natural resources, so...
what can they do to protect them?



Conservation agriculture
farming in a way that conserves and
protects natural resources

Agriculture Conservation Methods

No Till	Buffer Zone	Contour Farming	Cover Crop
Crop Rotation	Fencing	Grassed Waterways	Manure Pit

A



B



C



D



E



F



G



H



D

Fencing

Farmers put up fences around streams, rivers, and ponds on their property to keep livestock out of the water.

↓ disturbance to edge of water, so soil doesn't make water muddy and full of dirt

↓ waste from livestock going in the water and polluting or adding excessive nutrients to the water.



Agriculture Conservation Methods

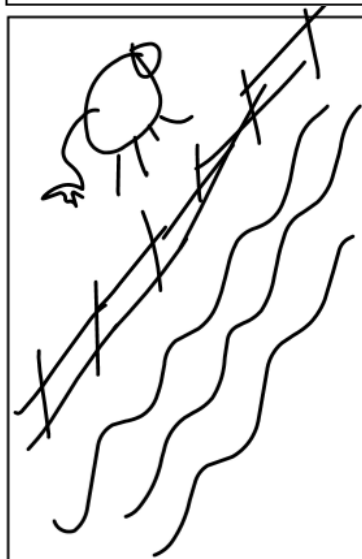
No Till

Buffer Zone

Contour Farming

Cover Crop

Crop Rotation



Fencing

Grassed Waterways

Manure Pit





A

No Till

Farmers do not plow (till) and disturb the soil.

Corn stalks and other plant matter are left on the surface of the soil.

Soil isn't disturbed until the seed is planted.

↓ erosion effects as plant roots hold soil in place, so it isn't washed or blown away

↑ decaying plant matter adds nutrients to the soil





F

Cover Crop

Farmers plant cover crops when the fields do not have anything planted in them.

↓ erosion effects as plant roots hold soil in place, so it isn't washed or blown away "living mulch"

↑ the organic matter in soil as some crops add nitrogen to the soil "green manure"

Some cover crops are harvested for food for livestock.

Some cover crops are mowed or tilled.



C

Buffer Zone

Farmers plant buffer zones which are strips of grass between a field and a water body.

↓ runoff water or waste from the fields, as these plants filter the water

↓ erosion effects as plant roots hold soil in place

↓ speed of water which reduces erosion

↓ wind erosion as trees and shrubs block wind





E Grassed Waterways

Farmers plant erosion-resistant grasses in areas of fields where water naturally flows

↓ runoff water or waste from the fields, as these plants filter the water

↓ erosion effects as plant roots hold soil in place

↓ speed of water which reduces erosion





B

Contour Farming

Farmers till or plant crops in rows that run around a slope rather than up and down the slope.

↓ run-off and erosion during rainstorms, as water is slowed down

↑ availability of water for plants, as the furrows hold the water and allow it to enter the soil slowly





G

Crop Rotation

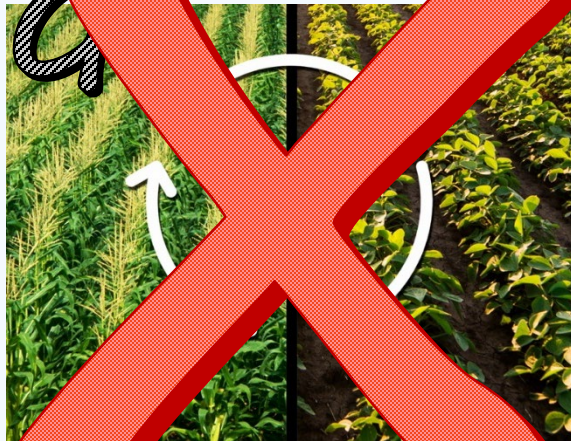
Farmers plant different types of crops in the same area across a sequence of growing seasons.

↓ presence of weeds and pests

↓ depletion of single nutrient

↑ nutrients in soil





H

Manure Pit

Farmers build manure pits that are lined with plastic or concrete to hold the manure from animals.

Allows farmers to use manure as fertilizer at the appropriate time

↓ water pollution and runoff

↑ nutrients in soil

