House of Hoosier Jerky

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Period: 6

BIRD'S-EYE VIEW

Describe your farm's PHYSICAL characteristics

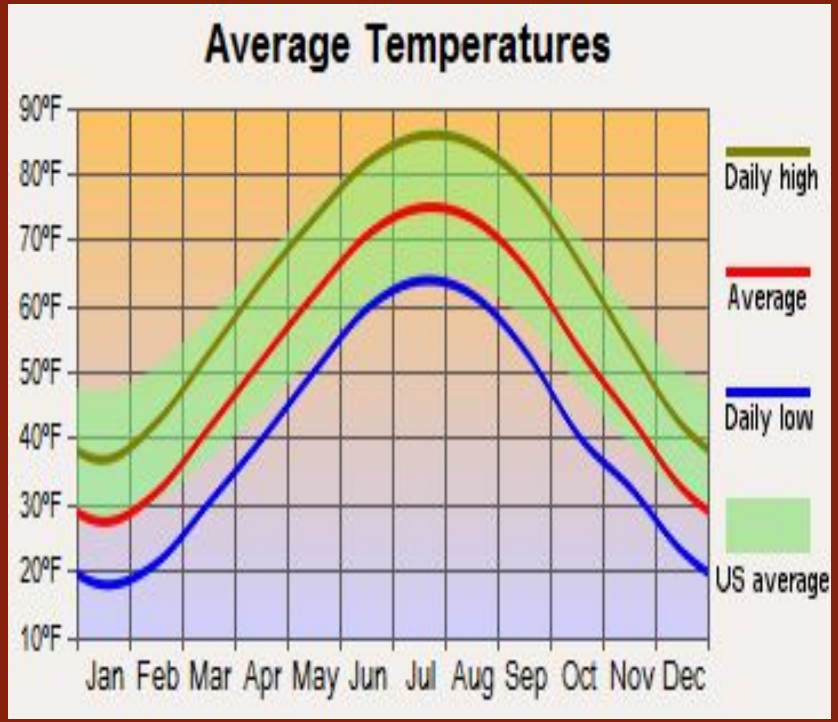
The soil type of our farm is clay loam. Clay loam has good drainage. "Loam is soil composed mostly of sand, silt, and a smaller amount of clay. By weight, its mineral composition is about 40–40–20% concentration of sand-silt-clay." The soil depth is around 3 to 5 feet deep. The soil pH is about 6.7 and has its fertility is slightly sodic (excess sodium).

Describe your farm's PHYSICAL characteristics

Lettuce, green beans, plants with shallow roots, flowers, many other vegetables/fruits etc.; Grow well in this type of soil.

Describe your farm's PHYSICAL characteristics

Local Climate: The farm area lies in a humid continental zone and generally has hot summers, cold winters, and wet springs. Temperatures vary widely during the year, with an annual average of 86 degrees in fahrenheit in July and 10 degrees fahrenheit in January. There are, on average, 166 days of full sunshine and 199 cloudy or partly cloudy days. Annual precipitation averages 34.7 inches while snowfall averages 30 inches. Relative humidity 72%.



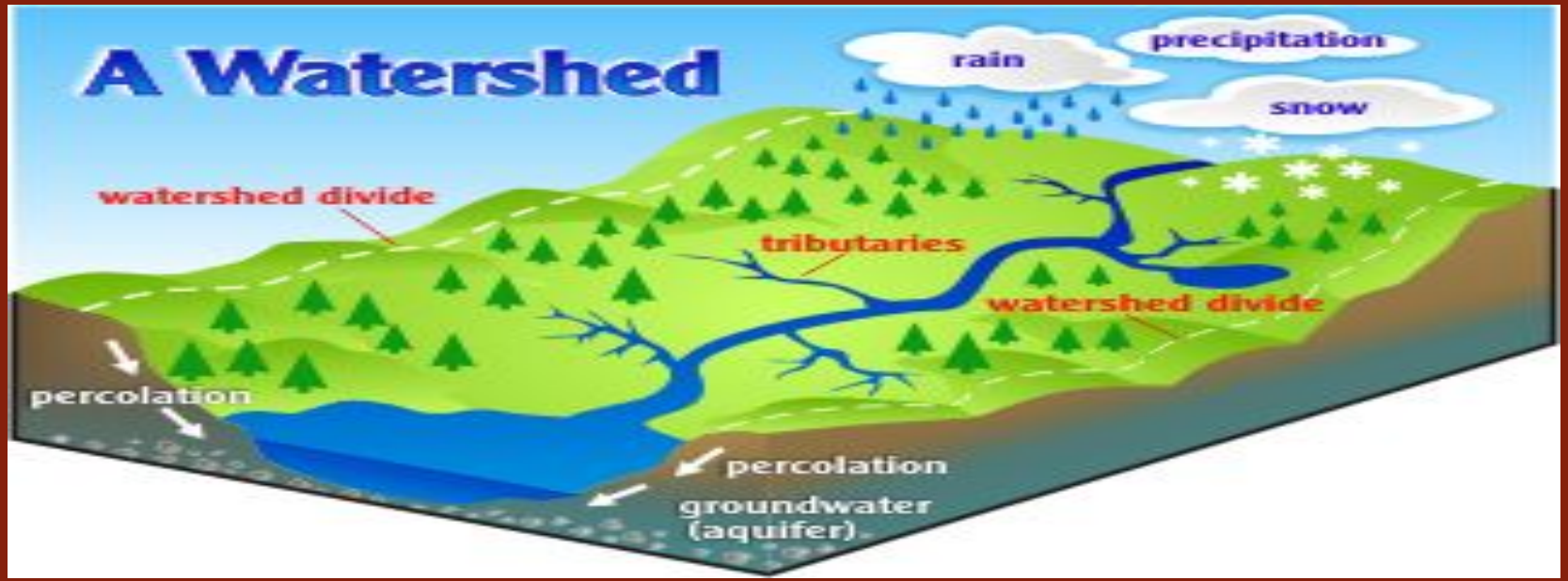
Describe your farm's PHYSICAL characteristics

Acreage / Land area: 500 acres

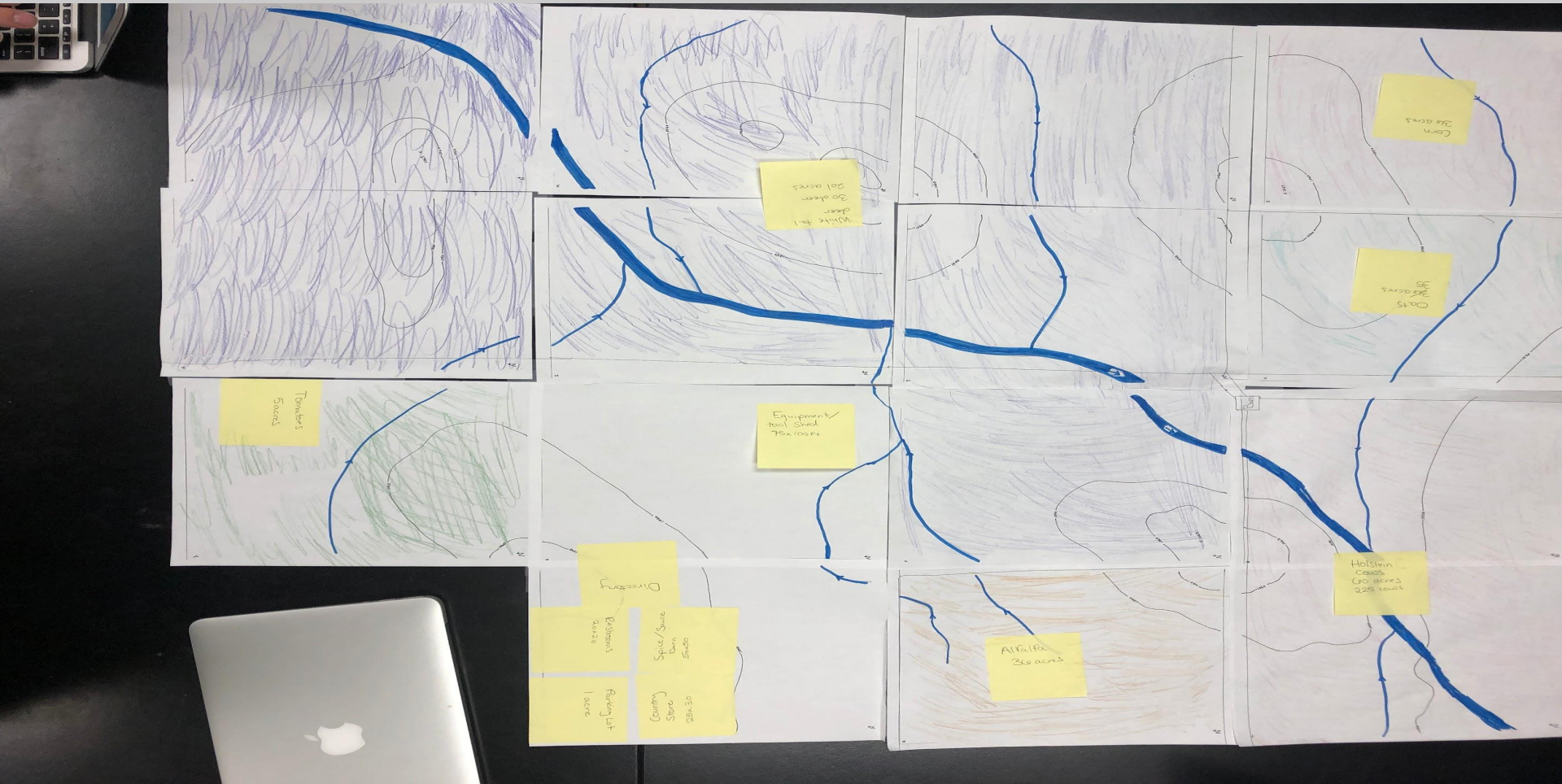
Topography: The land is flat in the bottomland near a creek/river, and has one hill.

Describe your farm's PHYSICAL characteristics

Watershed- The hill receives drainage from the our small river on our farm.



Picture of our farm TOPO map



Crop Selection-Oats

We chose to plant 36 acres of oats so we can feed the deer and cows on our farm. The oats will be planted in section K in late summer/early fall when oats are in season so we know they will grow.

Crop Selection-Corn

The 36 acres of corn will mainly be planted for the deer to eat. They will be planted in section O and a little of the bottom of section N. The corn will be planted in late spring when corn is in season.

Crop Selection-Alfalfa

We chose to plant 36 acres of alfalfa mostly for the cows to feed on but also for the deer to enjoy. It will be in section B of our farm and will be planted during late summer while in season to ensure it grows to its fullest ability.

Crop Selection-Tomatoes

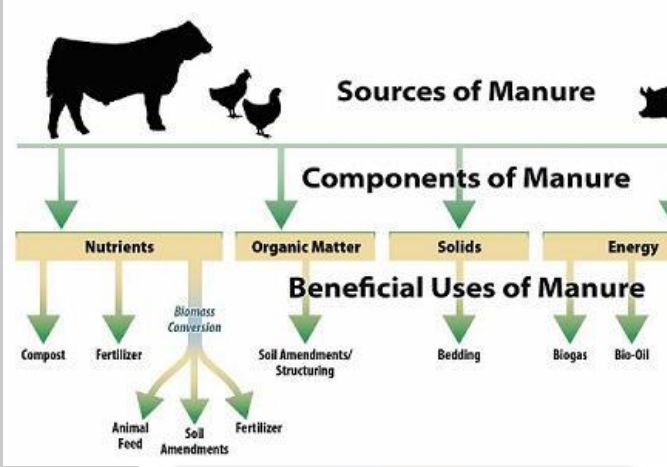
Our 5 acres of tomatoes will be used for the barbeque sauce for our beef jerky and will be in a small section of D on our farm. They will be planted during mid spring in season so we don’t have a problem getting them to grow for our sauce.

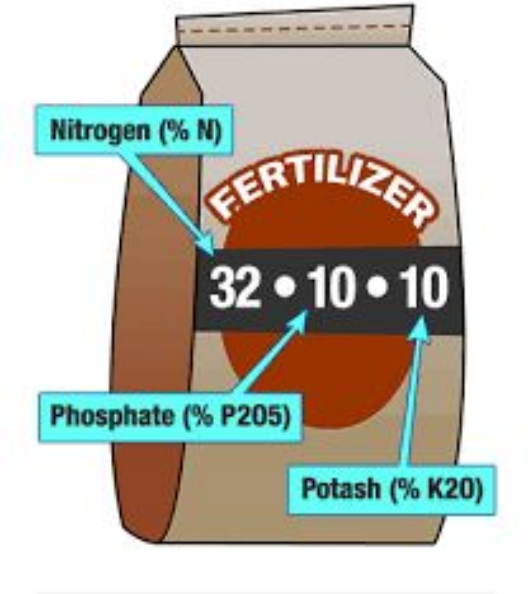
Nutrient Cycling

Our crops need Nitrogen, phosphorus and potassium

Our soil is Clay Loam so it will meet the needs for our Crops.

Something that can help our crops grow is fertilizer and we can make most of it with the waste that comes from our deer.





Summarize the goals and visions of your farm choices and layout

Our vision and goal is to run a successful and efficient farm using homegrown ingredients that brings visitors from far and wide to experience the production of beef and deer jerky.

Our farm layout was strategically planned out so that our crops are planted in fields that produce a high yield, and we placed our deer and cattle in areas that are best suited for their needs.

WORM’S-EYE VIEW

Soil food web found on your farm

Economic Impact of our Fantasy Farm

Our farm will allow for a few extra jobs for the community. It will also provide a chance for people to have a up close experience to deer. The farm will also have a country store, that will also bring in profit. Our farm will also bring in money for the community as it provides locally fresh beef/deer jerky meat to eat. Our product also provides a cheaper and higher quality meat for people to buy and consume. The profit that we make will be distributed to our farm and for the community as well.

The Social Impact of H.O.H.J

People can come and see what all comes together at The House of Hoosier Jerky to make our specialty made beef and deer jerky. You can observe our livestock and see how they are raised and the components we have put in to our product. We are open to all ages and offer multiple activities such as our sauce testing and a tour of our farm.

Environmental Impact of our Fantasy Farm

Our farm will make the world a better place because of the way we use our resources. We try our best to have zero waste and use every last bit of the crops we plant for something, even if we have too much. None of the stuff we plant goes to waste!

Oat Nematodes

Effect on plant: The oat nematodes invade the roots of the plants, which ruin them.

Solutions: We will use pesticides, that will not affect the yield of the plants.

Corn Rootworms

Effects on the crop : causes the plant to have a difficult time while trying to take up moisture and nutrients that it needs.

Solution- To help this problem we could rotate our crops.

Tomato Worms

Effect: They damage your garden/plants.

Solution: Till soil at the beginning and end of each gardening season to destroy overwintering larvae.

Ticks

Effects: Ticks effect cows and deer by transmitting organisms that cause tick fever, which is a serious blood parasite disease of cattle.

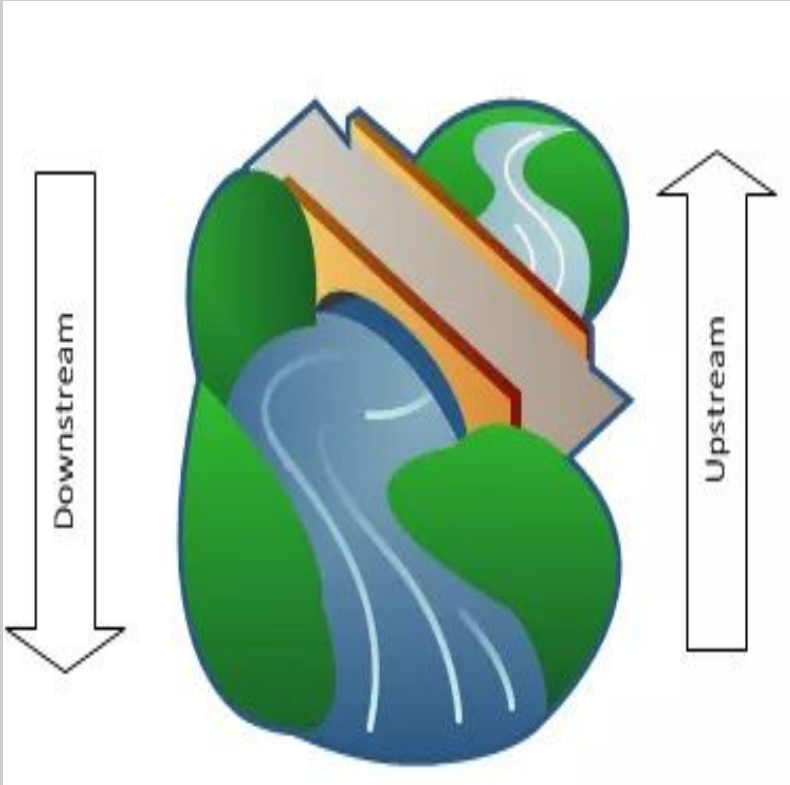
Solution: We are going to use a spray on insecticide that will kill the ticks, but won't be harmful to our livestock.

Water Availability factors (Precipitation and Soil Moisture)

The soil type of our farm is clay loam. Clay loam has good drainage. “Loam is soil composed mostly of sand, silt, and a smaller amount of clay. By weight, its mineral composition is about 40–40–20% concentration of sand-silt-clay.” The soil depth is around 3 to 5 feet deep. The soil pH is about 6.7 and has its fertility is slightly sodic (excess sodium). Our annual precipitation averages around 34.7 inches, while our average snowfall is around 30 inches.

Where do we get our Water? (Upstream and Downstream)

The Farm that is upstream from us could possibly contaminate our farm by using fertilizer, and then the extra fertilizer that didn't get absorbed gets into the stream. It would then contaminate our crops. Animals are also a leading factor that could contaminate our farm, by their feces. We could try and control this by getting the farm upstream to use riparian zones to maintain the excess fertilizer that didn't get absorbed. We would need to do the same to keep from contaminating the farm that is downstream.

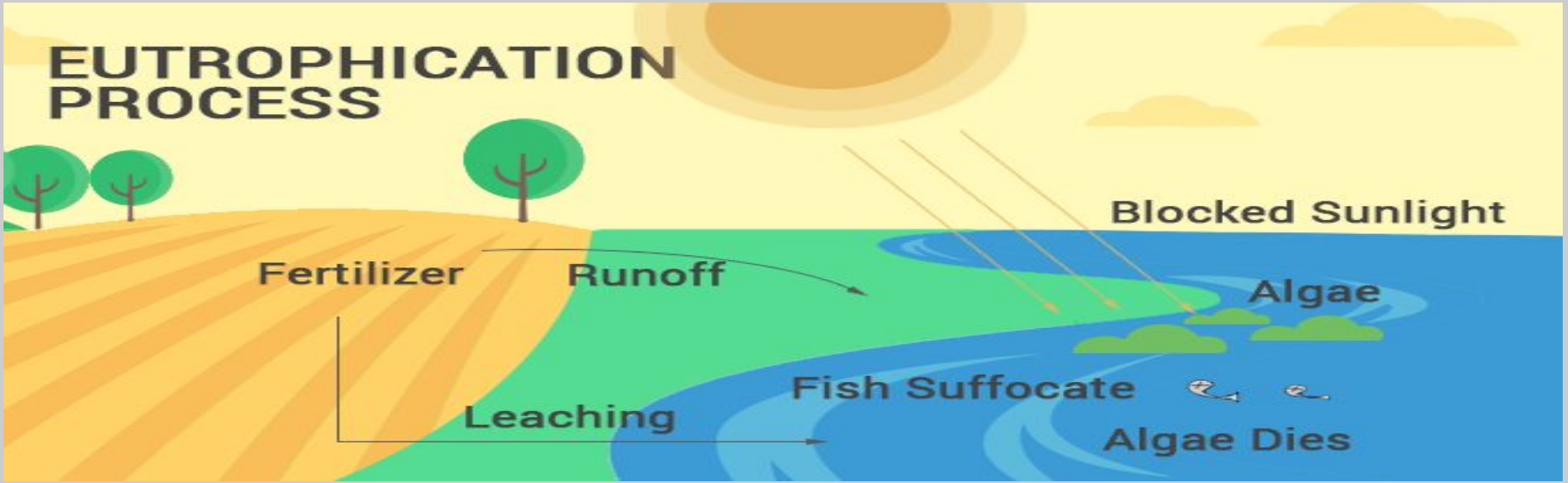


Agricultural Irrigation

For our plants to get the proper amount of irrigation we are going to use two types of irrigation systems. For plants that are grown on the hills we will use center pivot irrigation. Center pivot irrigation works by irrigating in a circular pattern around a central pivot point. However for our plants in the valleys we will use a movable riser irrigation system. Movable riser irrigation works by using a riser on a set of pipes that connect and/or support a piece of irrigation equipment on or to the irrigation system.

Eutrophication

Eutrophication is an excessive richness of nutrients in a lake or other body of water, frequently due to runoff from the land, which causes a dense growth of plant life and death of animal life from lack of oxygen.



Fertilization effects on surface and groundwater.

Excess phosphorus in lakes and streams can lead to algal blooms and excessive growth of aquatic plants. Nitrate is a soluble, negatively charged ion. It is converted from nitrogen applications as manure or fertilizer. ... When nitrogen is lost through the soil profile to groundwater, this process is called leaching.

Midwest farming and the Gulf of Mexico dead zone.

Dead zones are generally caused by significant nutrient pollution, and are primarily a problem for bays, lakes and coastal waters since they receive excess nutrients from upstream sources and cause harmful algal blooms. People using fertilizers that are running off into the Gulf of Mexico are causing algal blooms.

Livestock and feedlots affect nitrogen pollution

Livestock and Feedlots affect the environment, because of the hazardous waste that creates air pollution and can runoff into groundwater. Which affects nitrogen and it's cycles. Fertilizers and animal manure, which are both rich in nitrogen and phosphorus, are the primary sources of nutrient **pollution**. Our solution for this problem is to "cover crops: Planting certain grasses, grains or clovers can help keep nutrients out of the water by recycling excess **nitrogen** and reducing soil erosion."

Citation Page

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Notes from Mrs. Daniels.

A.P.E.S. Textbook.

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