

## Reading Selection

## Crops and Cows—What's the Problem?

Farming, or **agriculture**, produces the fruits, vegetables, and grains we need to survive. But the fertilizer used to grow these crops also pollutes our water systems. How can this be? Chemical fertilizers run off from fields. And animal manure runs off from barnyards and feedlots. Both are washed into ponds, streams, rivers, oceans, and even the water that runs underground.

water system. So the body of water and the plants in it become too "well fed."

Overfed plants can grow so quickly that they choke waterways. When overfed, algae also reproduce rapidly. (This is called an **algae bloom**, which turns the water a bright green.) When the plants use up the nutrients in the water, they die and rot. When bacteria feed on this dead material, they use up

valuable oxygen.

Manure is rich in nutrients, too. It also carries bacteria with it. In the water, these bacteria have a population explosion. This increase in bacteria takes away oxygen from the water. Sometimes, the bacteria use up so much oxygen that the plants and animals in the water suffocate and die.

**What Can We Do?**

We want to keep growing good crops. And many farmers need to keep raising cattle. So we will need to find solutions for the



*Agricultural runoff*

**How Can a Fertilizer Pollute?**

These **fertilizers** are rich in nutrients, especially nitrogen, phosphorus, and potassium. That's how they help crops grow. But if you think of a pollutant as anything that can harm living organisms when too much of it is released into the ecosystem, then fertilizers can be pollutants, too. Excess fertilizer can provide too many nutrients in a

runoff problem. Many experts are researching ways to keep pollutants out of the water. They're trying to find out exactly how much fertilizer to spread on the soil for each type of crop. That way we won't use any more than we need. And the extra fertilizer won't wash into the water. Other scientists are experimenting with ways to recycle manure cheaply. What are your ideas?