Indiana's environment is profoundly influenced by industrial agriculture. Anyone who has visited or lives in Indiana knows just how much of our land is devoted to farming. Go for a drive on county roads or travel between Indiana’s cities and you can be sure to encounter a landscape dominated by farm fields. In fact, nearly 65 percent of Indiana’s land is used for agriculture, making it the single largest land use in the state.

The majority of Indiana’s cropland is devoted to the cultivation of single “cash crops,” which are crops that are habitually grown for profit, like corn and soybeans. These crops are used to produce animal feed, biofuels, and processed foods. Animal feed is needed to sustain nearly 2,000 confined animal feeding operations (CAFOs) in Indiana. Also known as factory farms, CAFOs are characterized by having large numbers of animals crowded into a confined space—an unnatural and unhealthy condition that concentrates too much manure in too small an area.

Industrial agriculture refers to this intensive system of farming that grows massive amounts of cash crops, also known as monocultures, and confines livestock animals in crowded conditions. This model of farming has dramatically changed Indiana’s landscape. Industrial agriculture is heavily dependent on chemical pesticides, fertilizers, antibiotics, and growth hormones that end up in our soil, water, and food. These chemicals can cause harm to plants, animals, and other organisms—leading to the formation of diseases, cancer, and antibiotic resistance.

![Indiana Vegetation Cover Then and Now](image)

Many of Indiana’s native ecosystems, such as wetlands and forests, were converted to make way for agriculture. Estimated from survey records and soil data (Lindsey et al., 1965) and LandSat data (USGS, 2001).
How Does Industrial Agriculture Damage Ecosystems?

- It is a leading cause of the loss of topsoil, soil erosion, and soil degradation.
- It uses water inefficiently, leading to increased risk of drought, especially in dry regions.
- It contributes excessive nutrients to our waterways, leading to toxic algal blooms that harm human and ecosystem health.
- It introduces biologically disruptive chemicals into the environment.
- It is a leading cause of habitat loss, biodiversity decline, and species extinction.

What Farm Practices Restore Ecosystem Health?

- **Crop rotation**: Rotating between different crops each growing season.
- **Polycultures and intercropping**: Growing multiple crops at once.
- **No-till and reduced-till**: Reducing or eliminating the mechanical agitation of soil.
- **Cover cropping**: Covering bare soil with vegetation in all growing seasons.
- **Reduce and eliminate pesticide use**: Employ integrated pest management techniques (IPM) and utilize symbiotic relationships between plants.
- **Perennial cropping**: Growing plants with longer root systems, such as perennials.
- **Crop-livestock integration**: Co-locating crops and livestock together.
- **Agroforestry and food forests**: Structuring farms to mimic forest ecosystems and incorporating many vertical layers of plants, trees, and shrubs to provide fruits, nuts, and other edible products.
- **Protecting and restoring watershed features**: Restoring wetlands, streams, and other aquatic habitats on agricultural landscapes.

How Can You Help?

Transitioning away from industrial agriculture will require a societal shift in the way we grow, consume, and transport food. Individual actions may seem unimportant, but collectively they are responsible for shaping our entire food system. No matter if you are a producer or consumer, one of the best ways to promote farm practices that are good for the planet is to educate yourself and others about how industrial agriculture damages ecosystems. Greater public awareness of the negative environmental impacts of industrial agriculture and what alternatives are available will support the transition towards farm practices that restore ecosystem health.

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1. An integrated assessment of the potential impacts of climate change on Indiana forests, Phillips et al. Accessible at [https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1000&context=forestpub](https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1000&context=forestpub).