

# Organic Agriculture

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*Organic agriculture is the process of growing crops without the use of synthetic pesticides, fertilizers, or Genetically Modified Organisms (GMOs). Often farmers will still use natural fertilizers such as compost to enhance their soil fertility.*

# Industrial Agriculture

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*Industrial agriculture is the process of growing crops in a conventional manner that can utilize pesticides, fertilizers, Genetically Modified Organisms, and in the case of livestock, antibiotics as growth hormones. Many industrial agriculture farm systems also employ 'contract farmers.'*

# **Look For**

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1. Industrial Agriculture
2. Farm Laborers

# **Look For**

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1. Pesticides
2. Synthetic Fertilizers

# Synthetic Fertilizers

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*Fertilizers are applied to farm fields to enhance the soil characteristics. Most fertilizers contain nitrogen, phosphorus, and potassium. Fertilizers can be derived from compost, animal wastes, or other organic material. However, most conventional fertilizers are petroleum-based and composed of synthetic rather than natural ingredients.*

# Pesticides

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*Pesticides are substances that destroy pests. Pests can be insects, mice, unwanted plants (weeds), bacteria, viruses, fungi, or a variety of other animals that may be seen as a nuisance. Many conventional pesticides are petroleum-based and kill harmful as well as beneficial microorganisms. Eliminating beneficial microorganisms from the soil can impact soil quality.*

# **Look For**

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1. Organic Agriculture
2. Food Prices

# **Look For**

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1. Water Quality
2. Farm Laborers

# Food Prices

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*Food prices are defined as the price that consumers pay at the supermarket/grocery store.*

# Water for Agriculture

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*As the population grows & water consumption climbs, the water quantity allocated for agriculture is being increasingly reduced in order to meet the needs of commercial and residential use.*

# **Look For**

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1. Farm Laborers
2. Water for Agriculture

# **Look For**

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1. Meat/Livestock Production
2. Food Prices

# Water Quality

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*Water quality is often impacted by agriculture. For example, when fertilizer runs-off into waterways it can cause eutrophication—an excess of nutrients in streams and lakes that raises the temperature of the water, reduces dissolved oxygen levels and often results in algal blooms.*

# Meat/Livestock Production

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*This is the process of raising animals for human consumption. Most livestock spend their lives in Confined Animal Factory Operations (CAFOs).*

# **Look For**

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1. Pesticides
2. Meat/Livestock Production

# **Look For**

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1. Water Quality
2. Industrial Agriculture



# Farm Laborers

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*Farm laborers include the people that plant, harvest, and maintain the crops. In the case of livestock, farm laborers are often contract farmers that manage the operation but do not own the animals.*

# **Look For**

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1. Organic Agriculture
2. Pesticides

## **Disturbance!**

You represent 'Organic food market triples.' Read out-loud to the class: "Due to consumer demand for food produced without synthetic fertilizers and pesticides, the organic food market has tripled."

Now move the person with the card 'Organic Agriculture.'

## **Disturbance!**

You represent 'Mexico increases their national minimum wage.' Read out-loud to the class: "Mexico has come under scrutiny for its poor treatment of workers and low minimum wage—67.29 pesos per day or about \$5/day so Enrique Pena Nieto (the President of Mexico) has announced that they will increase their national minimum wage to 80 pesos per day."

Now move the person with the card 'Farm Laborers.'

## **Disturbance!**

You represent 'Drought.' Read out-loud to the class: "Due to climate change, California has had record high temperatures and scant rainfall. In order to provide adequate water for their growing urban areas, the water allocated for agricultural use has been dramatically reduced."

Now move the person with the card 'Water quantity allocated for agriculture.'

## **Disturbance!**

You represent 'Chipotle commits to purchasing only certified humane meats.' Read out-loud to the class: "The 3<sup>rd</sup> largest fast food chain in the nation declares that it will only purchase meat from farms and slaughterhouses that pass strict humane treatment regulations."

Now move the person with the card 'Meat/livestock production.'