

Farmland Film Discussion Guide

This discussion guide is intended for use in conjunction with the film FARMLAND. This guide will extend the movie’s themes and can be used to debrief after watching the movie. These questions will deepen the students’ understanding of farming and all of the challenges that come along with it.

**Farmers:**

* Ryan raises hogs, corn, soybeans and small grains
* Brad is the cattle rancher from Texas
* Margaret is the vegetable farmer from Pennsylvania
* Sutton is the organic produce farmer from California
* David is the grain farmer from Nebraska
* Leighton is the chicken, cattle and hay farmer

**Grades 6-8**

1. Picture in your head a typical farmer. What do you see? Compare and contrast this picture with that of the six farmers in the movie. What are some similarities and differences?

* Some typical responses will be that there was a female farmer in the movie, the farmers dressed similarly to most Americans, most wore hats, one farmer wore a cowboy hat, the farmers were all young, etc.
* These farmers use the Internet, shop at the Gap, are college educated, and are just like “normal” people.

1. The farmers in this movie are very different from one another. In what ways are they similar? In what ways are they different?

* This discussion should go beyond surface similarities, and should bring out some deeper observations, such as the reliance of the farmers on their families for help, similar and different commodity production, location across the U.S., belief in animal and Earth caretaking,
* Students should acknowledge that differences in farmers can be common, and that farmers are all unique and go about farming in different ways.

1. Brad, the cattle rancher, mentions that at 26 years old he is the youngest farmer or rancher in his county. Do you think this is typical? What might be a cause of this?

* This is typical for U.S. farmers. The average age of a farmer is 55 years old, so Brad is 30 years younger than the majority of his peers. Some of the reasons behind this include the financial difficulties of purchasing a farm, less farms to come home to, and young people don’t necessarily have the desire to return to the farm.

1. Name some of the technology featured in the movie and discuss potential benefits and risks of each technology.
   * Answers can include:
     1. Tractors, which speed up planting and harvest but are very expensive; as new tractors become more technologically enhances, they also become more difficult to repair. These can be compared to the older tractors that the female vegetable farmer uses.
     2. Irrigation, which is also expensive and can waste water, but necessary to deliver water to plants, can be controlled by a computer in a shop.
     3. GPS, which is used to map out fields and plant in perfectly straight lines, but can be time consuming to set up or fix
     4. Genetically Modified Organisms, which are seeds that are engineered to have benefits like drought resistance, insect resistance, herbicide resistance and disease resistance. These seeds can be more expensive to purchase but mitigate the costs of pesticides and protect yields.
     5. Automated chicken barns that control temperature keep chickens comfortable.
     6. Chickens are fed and watered mechanically.
2. The farmers all talk about the importance of water in their farming operations and a fear of running out of water. How is water used in agriculture?

* Water is necessary for the growth and development of crops like corn, soybeans and vegetables. It is also important for livestock to have enough to drink and stay hydrated. Cattle especially need water to nourish their water for grazing. Crops like corn and soybeans are moved down rivers by barge, and are carried across the oceans to get to their final destinations. Dairy farmers rely on clean water to cool milk down from the cow’s body temperature to store. Livestock farmers are greatly affected by drought in the Midwest, where most livestock feed is grown.

1. How do changes in the weather impact farmers, and how do they respond?
   * The cattle farmer is faced with a drought that makes it hard for his cows to find green grass to eat. In this circumstance, many farmers buy hay or grain to feed to cows in replacement of pasture, which is costly.
   * The farmer in Minnesota is challenged by snow in the spring and a cold soil temperature, which prevents him from being able to plant. There isn’t much he can do besides wait for the weather to warm up.
   * All farmers are at risk of hail damage to crops and buildings, flooding destroying pasture, and tornados that can destroy buildings and kill animals. Too much heat can stress crops and livestock, and if the weather is too cold, crops won’t germinate or continue to grow.
   * Dramatic changes in weather in the Midwest effect livestock farmers across the country because the Midwest is a huge source of feed for livestock. If a drought or flood reduce corn yields, livestock farmers across the country feel the impact of that, too.
2. Community Supported Agriculture is a program that allows people to sign up for a season’s worth of locally grown produce and pick it up from a farm. How can this benefit both the producer and consumer?
   * This program ensures that participants have a supply of fresh, healthy seasonal vegetables to eat all summer long.
   * It builds a relationship between the farmers and non-farm consumers that allows consumers to understand where and how their food is produced.
   * Farmers have a source of income to rely on.
   * This allows farmers to market their products early in the season before long days of harvesting begin.
   * Participants are exposed to new and interesting vegetables that they otherwise may not have tried.
3. What are some of the factors that influence the farmers’ profits that are out of their control?
   * The main ones here are the weather and markets. Both can change at a moment’s notice and are uncontrollable. The commodity markets dictate the price of crops and livestock. Farmers also cannot control the price of their inputs, such as fertilizer, machinery, and labor, which is similar to most businesses.
4. How do you think your life would be different if you were raised on a farm?
   * Leighton talks about how the chores he did as a kid weren’t just simple house chores, but were important to keep the business running and were work. On many farms, children are given work to do as soon as they are able to contribute to the farming operation, and those chores range from feeding animals to driving equipment. Farm children often play a very important role that gives them the experience to be able to farm themselves.
5. Discuss the role that family members play in the lives of the different young farmers.
   * Sutton relies heavily on his father for advice on the various crops, irrigation, and general farming. His mother keeps him fed and as he says, she is his “moral support.”
   * David’s father is deceased, and his mother plays a huge role in bookkeeping, working with regulations and taxes, and driving equipment.
   * Margaret does not come from a farming family, so she does not rely on her family for advice or expertise.
   * Brad works with his family, but the focus here is on his wife and their twin children. Knowing how much time is required to farm, what could be some challenges with twins?
6. What are some of the differences between small scale production and large scale production?
   * Margaret is the smallest farmer in the documentary, and she is using a lot of human labor and older tractors. Sutton grows products that are similar to those of Margaret, but uses large machinery such as irrigation and combines to care for, harvest and process his produce.
   * Most large scale farmers are able to economically justify purchasing and operating more efficient machines to farm. Smaller farmers may not have the capital or the acreage to justify some machines and technologies. In general, this makes large scale production more efficient than small scale production, and allows for less expensive food prices.
7. If you had the chance to meet one of these farmers, what would you ask them and why?

**Grades 9-12**

1. The farmers in the movie discuss the image of the farmer, and how it can range from a romanticized *American Gothic* type image to that of a corporate CEO. Based on what you’ve heard in the movie, where do you think the average farmer lies on this spectrum, and what do you think the cause of this disparity is?

* Though a personal response for this question is warranted, students should recognize that the majority of farmers do not fit either of these images, and look more like average Americans. These false impressions are a product of the generational and geographic distance between farmers and the majority of consumers. As agriculture and farmers have changed and brought in new technologies and ways of producing food and no longer fit the stereotypical farmer image, but consumers don’t necessarily see that because they are so far removed from agriculture.

1. From factors out of the farmers control to the capital required to farm, farmers have to manage risk successfully to be a lucrative business. How can farmers manage this risk?

* Margaret mentions saving up from good years in preparation for bad years. This is especially important when farm inputs like seed and fertilizer can be extremely expensive.
* Livestock must be marketed when they are in the best condition, which means that once they are ready to be marketed, they can’t wait for the markets to go up to sell at a higher price.
* Some farmers sell grain on the futures market, so they can sell the commodity at a locked in price today for delivery at a specified future date.
  + Futures marketing related websites: <http://www.marketwatch.com/video/kids-explain-futures-trading/BB90AD0E-B36B-40A8-AD4F-EE387F727E3D.html>
  + <http://www.investopedia.com/terms/f/futuresmarket.asp>

1. Several of the farmers talk about their farms as businesses from where their living is derived despite them still being family farms. Describe some of the struggles of farming as a business. Do you see differences between farm businesses and other business you have come in contact with?
   * Some of the challenges mentioned in the movie include making a product and not knowing the price you are going to be selling it at and not being able to control the costs of inputs.
   * Farms are businesses because they are a source of income for the owners and employees, have a bottom line, and business decisions are made by farmers. Many farmers have degrees in economics, agriculture economics, or agriculture business that give them the background to make tough financial decisions.
   * As an extension, talk with students about how this “business farmer” fits with the image of a farmer they pictured initially.
2. Compare and contrast organic production, natural production, and conventional production.
   * Organic is a set of regulations trademarked by the USDA Organic program, which regulates types of fertilizers and chemicals that can be used in crop production and prohibits the use of synthetic hormones, antibiotics and confinement housing in livestock production. Organic farmers cannot use synthetic chemicals. Organic foods have not been found to be safer or more nutritious than their conventional counterparts. The USDA’s organic website: <http://www.ams.usda.gov/AMSv1.0/nop>
   * Conventional agriculture must follow USDA guidelines for chemicals as well, but conventional farmers are allowed to use synthetic chemicals, hormones and fertilizers, and antibiotics.
   * Natural does not have a USDA definition, but Margaret believes that less chemical exposure is better. Brad considers “all-natural” to mean no hormones or antibiotics used.
3. GMOs (genetically modified organisms) are a seed technology that many farmers choose to use. Based on the thoughts of the farmers and any background knowledge you have, compare and contrast possible advantages and disadvantages of genetic engineering.
   * Advantages: yield can be protected from insects, disease, herbicides (chemicals that kill weeds), and drought. Different plants can be modified to produce more nutrients, like Golden Rice or an iron enhanced banana. Genetically engineered plants allow farmers to use less pesticides and allow for conservation tillage, because weeds can be killed without having to till them up.
   * More information about GMOs here: <https://gmoanswers.com/studies/top-10-consumer-questions>
   * <http://findourcommonground.com/food-facts/gmo-foods/>
   * <http://www.geneticliteracyproject.org/category/innovations/>
   * Disadvantages: The public doesn’t know much about this technology and many people distrust it. There are also concerns about cross-pollination with organic crops, and as with any method of insect and weed control, resistance is also a concern.
4. Leighton talks about marketing a hormone-free chicken. Is it fair to market food based on consumers’ lack of knowledge? Are there other examples of similar marketing tactics?
   * Other examples might include hormone-free pork (no pigs can be given hormones), “all-natural” because it has no USDA meaning, antibiotic-free (because all meat must be free of antibiotic residues at the point of slaughter).
5. The farmers all talk about the importance of water in their farming operations and a fear of running out of water. How is water used in agriculture?

* Water is necessary for the growth and development of crops like corn, soybeans and vegetables. It is also important for livestock to have enough to drink and stay hydrated. Cattle especially need water to nourish their water for grazing. Crops like corn and soybeans are moved down rivers by barge, and are carried across the oceans to get to their final destinations. Dairy farmers rely on clean water to cool milk down from the cow’s body temperature to store. Livestock farmers are greatly affected by drought in the Midwest, where most livestock feed is grown.

1. Community Supported Agriculture is a program that allows people to sign up for a season’s worth of locally grown produce and pick it up from a farm. Margaret participates in this program. How can this benefit both the producer and consumer? How does this compare to traditional marketing of commodities?
   * This program ensures that participants have a supply of fresh, healthy seasonal vegetables to eat all summer long.
   * It builds a relationship between the farmers and non-farm consumers that allows consumers to understand where and how their food is produced.
   * Farmers have a source of income to rely on.
   * This allows farmers to market their products early in the season before long days of harvesting begin.
   * Participants are exposed to new and interesting vegetables that they otherwise may not have tried.
   * The risk is shared between the producer and purchaser, because often the produce is paid for in advance. If a problem occurs with the produce, the consumer doesn’t typically get their money back.
   * Community Supported Agriculture (CSA) Website: <http://www.localharvest.org/csa/>
   * This can be compared with how Sutton, the organic farmer, sells his produce. Though he and Margaret sell similar types of products, Margaret sells face-to-face with customers and Sutton sells to companies that market his products for grocery stores and processing.
2. Name some of the technology featured in the movie and discuss potential benefits and risks of each technology.
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     2. Irrigation, which is also expensive and can waste water, but necessary to deliver water to plants, can be controlled by a computer in a shop.
     3. GPS, which is used to map out fields and plant in perfectly straight lines, but can be time consuming to set up or fix
     4. Genetically Modified Organisms, which are seeds that are engineered to have benefits like drought resistance, insect resistance, herbicide resistance and disease resistance. These seeds can be more expensive to purchase but mitigate the costs of pesticides and protect yields.
     5. Automated chicken barns that control temperature and feed and water chickens mechanically.
3. The farmers in the movie talk about how agriculture has changed over the years. What are some of these significant changes and what are their implications?
   * Farms today are of a larger size than the farms of several generations ago. New technology, like automated confinement buildings, allow farmers to have more animals and more land and still manage it well. Larger farms today are more efficient than the smaller farmers typical of yesterday. Some examples of this would be large dairy farms that have the capabilities of harnessing manure’s methane and turning it into gas to power vehicles (<http://www.nytimes.com/2013/03/28/us/dairy-finds-way-to-let-cows-power-trucks.html?_r=0>) and farmers using newer tractors capable of using precision agriculture technology that allow GPS to guide tractors, exacting row spacing and reducing driver fatigue as well as many other benefits. (<http://www.research.ibm.com/articles/precision_agriculture.shtml> )
   * Most farmers today are college educated. Unlike the farmers of many years ago, most of today’s farmers have at least an associate’s degree before they return home to farm. Farming is a difficult and risky business, and it is important to be armed with as much knowledge and experience as possible before starting or joining a farm. (<http://www.americasfarmers.com/2014/05/19/myth-busted-farmers-dont-get-college-degrees/> )
4. How do you create a sustainable farm?
   * There are many examples of farms that are sustainable. One example that is very prevalent in Iowa is a farm that raises corn, feeds that to hogs, and uses the hog manure to fertilize the corn fields.
5. What are some of the differences between small scale production and large scale production?
   * Margaret is the smallest farmer in the documentary, and she is using a lot of human labor and older tractors. Sutton grows products that are similar to those of Margaret, but uses large machinery such as irrigation and combines to care for, harvest and process his produce.
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6. What are some of the problems involved with transferring a farm from one generation to the next?
   * Estate taxes, or taxes against the estate of a deceased person for the right to transfer property at death, play a huge role in generational farm movement. Because land and farm machinery are so expensive, this tax can be very large – in some cases, too large for the next generation to pay. If this is the case, often parts of the farm must be sold to pay the tax.
   * Many farmers encourage their children to find off-farm jobs that can support a family with a consistent and reliable paycheck.
   * Farm size must increase to support more than one family, so if two siblings both express interest in working on a farm, the farm size must be increased so both sibling’s families can be supported by it.
   * Family relationships have to transition to working relationships for the business to be successful, which can be challenging.
7. If you had the opportunity to meet one of the farmers in the documentary, which one would you want to meet and why?
8. Did this movie change your perceptions of agriculture? Were you surprised about anything the farmers in the movie talked about?
9. Are there any situations or people in this documentary you can relate to?