

# AP<sup>®</sup> HUMAN GEOGRAPHY 2009 SCORING GUIDELINES

## Question 3

Agriculture in the United States has changed significantly in the past few decades. With respect to the past, present, and projected trends in agriculture shown in the diagram above, answer the following:

### Part A (4 points)

First identify and then explain TWO factors contributing to the steady decline in the number of dairy farms since 1970.

<b>Factors</b> <b>(1 point per factor; max 2 points)</b>	<b>Explanations</b> <b>(1 point per explanation; max 2 points)</b>
Increased production of milk	Cows produce <b>higher yields, meaning fewer cows</b> are needed to meet the demand for milk; therefore there are fewer farms.
Increased mechanization	Mechanization/technological changes in the milking process have enabled farmers to <b>increase the size of their dairy herds</b> . This efficiency has made small farms unprofitable.
Development of agribusiness, economies of scale, factory farms, industrialization of agriculture; changes from labor-intensive to less labor-intensive forms of agriculture	The number of farms, including dairy farms, in the United States is decreasing, owing to one or more of these factors [ <b>elaboration required</b> ].
Displacement by urbanization	Dairy farmers <b>close to cities where dairy farms traditionally have been located</b> (milk shed) have been displaced by urbanization, leading to a decline in the number of dairy farms overall.

### Scoring Notes:

- Students must identify and then explain **TWO** factors—that is, link the decline in the number of farms (EFFECT) to a factor (CAUSE). Just saying “agribusiness” or “industrialization” is insufficient to earn 2 points.
- Do not award points for discussions of the **LOCATION** of dairy farms (a repetition of von Thünen’s ideas) that are not directly related to the decline in the **NUMBER** of farms.

# AP<sup>®</sup> HUMAN GEOGRAPHY 2009 SCORING GUIDELINES

## Question 3 (continued)

### Part B (4 points)

First identify and then explain TWO factors contributing to the increase in the number of organic farms since 1970.

<b>Factors</b> <b>(1 point each; max 2 points)</b>	<b>Explanations</b> <b>(1 point each; max 2 points)</b>
Increasing demand for organic products has made organic agriculture profitable and led to a growth in organic farming (both large-scale and small-scale).	<ul style="list-style-type: none"> <li>• Consumers in the U.S. seek alternatives to the industrial products of modern agriculture because of (media-driven) <b>concerns about the nutrition and healthiness</b> of commercial agricultural products.</li> <li>• Consumers have become <b>wary of the insecticides, herbicides, fertilizers, and genetically modified organisms (GMOs)</b> used in agriculture and to produce foodstuffs and have become concerned about related long-term health issues.</li> <li>• Population of the U.S. is increasing in wealth and is <b>better able to afford</b> (and willing to pay) higher prices for organic products.</li> <li>• Buying organic food is an example of <b>conspicuous consumption</b> to display cultural preferences (a green lifestyle).</li> <li>• Some consumers switch to organic products because they are concerned about the <b>humane treatment of animals</b>.</li> <li>• Households have declined in size and have <b>more disposable income to spend on higher-quality (organic) food</b> rather than lower-quality (nonorganic) food.</li> <li>• Better advertising and marketing systems have made <b>organic products more appealing</b> to consumers, thereby increasing the demand for goods and profitability.</li> <li>• The demand has increased, aided by the growth of <b>chains of supermarkets dedicated to organic products</b>, which has <b>increased profitability</b> and led to the growth of suppliers for these chains.</li> </ul>
Shifts in organic agriculture have led to <b>better care for the land</b> (land stewardship, sustainability, environmental concerns).	<ul style="list-style-type: none"> <li>• As stewards of the land, farmers/consumers wish to <b>sustain</b> it in the same state they found it rather than exhaust it or otherwise degrade it by the application of agricultural chemicals.</li> <li>• Some consumers switch to organic products because they wish to eat foods that have a <b>less negative impact on the environment</b> (wish to live in greater harmony with nature).</li> </ul>
Small farms <b>competing with large-scale farms (agribusiness)</b> are forced to <b>shift to more profitable agriculture</b> .	<ul style="list-style-type: none"> <li>• The economies of scale achieved by large-farm operations have kept the retail price of food low. Because small-farm operations cannot achieve these economies, they have to either go out of business or <b>shift to more intensive forms of agriculture or supply specialty food</b> for niche markets that bring higher prices and greater profitability, e.g., producing higher-priced, higher-quality organic products.</li> </ul>

### Scoring Notes:

- For parts A and B, factor points and explanation points are independent; students can earn one without the other.
- For both parts, do not award full credit for a "double dip"—e.g., two explanations of demand for organic foods.

3

Write in the box the number of the question you are answering on this page as it is designated in the exam.

One of the main contributing factors is that technological advancements and better agricultural machines and efficiency have resulted in more effective farms. With more effective farms, less of them are needed to sustain the US's need for dairy products. The continuing use of land only shortens the available land, and with certain urban areas wishing to buyout local farmers to build new areas, more smaller, local dairy farms are quickly disappearing. Another factor is that with the ease of transportation and the continued use of multipurposed grocery stores, only the large dairy farms are required. Because dairy farms need to be located very close to their market because their products are highly perishable, it makes no sense to have multiple smaller dairy farms spread out over a wide area. A single, big farm that can easily access a market that can be easily be accessed by consumers is more efficient and logical. One factor that is a huge contributing factor in the increase in organic farming, is that with global warming and various other energy shortages, the world and its people are slowly beginning to attempt to adopt less energy wasting methods for doing things. This has also resulted in a market where healthy and organic products have become classy and popular. Although the low-quality foods such as food from McDonald's are still taking in more than their necessary share of money, the organic food

Write in the box the number of the question you are answering on this page as it is designated in the exam.

3A 2 of 3

3

market is widening. With an increased market, comes an increased demand, so more supply is needed to meet the demand. Thus, the increase in organic farms must continue to meet the growing call for organic foods, made with less chemicals and produced from the loving care of natural farming, as opposed to entirely machine-operated food manufacturers. Yet another contributing factor is that as explained, small farms who produce food for a large market, like local dairy farmers or wheat farmers, have great difficulty coexisting with the much bigger farms who have access to better equipment and can mass produce their products more quickly and to a larger market. With all this market being taken up by bigger corporate farms, the local farmer must look to become more specialized, in order to carve out a personal niche, where they can acquire a loyal and dedicated consumer base. Because it is easier for big companies to grow inorganic foods, doing things like supplementing chemicals for natural flavoring, they do, in order to make a larger profit by selling cheaper food. As stated, local farmers cannot compete. But what they can offer, however, is higher-quality food for a potentially higher price. In addition as the means for producing organic foods becomes easier and less expensive and the consumers become more aware of the health concerns and wish to be

3

Write in the box the number of the question you are answering  
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3A 3 of 3

A more green and healthy society, even some larger corporate  
farms and agribusinesses will be forced to adopt some  
organic food production, to meet the increasing demand.

Write in the box the number of the question you are answering on this page as it is designated in the exam.

3B

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A Two contributing factors to the decline in the number of dairy farms since 1970 are the commercialization of agriculture and biotechnology. The increasing commercialization of agriculture in the United States has led to major corporations accounting for most of the production of dairy products because of increased revenue. The few large dairy farms receive massive profits while smaller private farms struggle to compete; small, private farms often face higher ~~cost~~ operating costs than larger farms because of their lack of resources, the inability to buy products such as feed in bulk and at a lower cost, like larger ~~ag~~ commercial farms can. This has led to many ~~small~~ dairy farms closing down, & the large ~~ag~~ commercial farms gaining even more profit. Biotechnology has also contributed to this decline because large commercial farms now have access to genetically modified feed for their cattle, which can increase milk ~~sp~~ milk production of the cattle, furthering the profits of the commercial farms, & the inability of smaller farms to compete, & therefore facilitating the closure & decline of the number of dairy farms.

B Two factors contributing to the increase in the number of organic farms since 1970 is the Green Revolution/Biotechnology & higher wages for American workers. Since Biotechnology has led to the genetic modification of many of the products that residents consume (such as flour and strawberries), many Americans are concerned about the effects this genetic modification could have on their health. Since Americans make higher wages than residents of peripheral & semi-peripheral countries, who would gladly consume genetically modified foods if they were cheaper, they have started buying organic, non-modified foods for their families' health, even though they are more expensive. This has led to the increase in the number of organic farms & the decrease in the number of dairy farms.

Write in the box the number of the question you are answering on this page as it is designated in the exam.

3C 1 of 2  
# 3

(a) Since 1970, there has been a steady decline in the number of dairy farms in the United States. One cause for this is that with the many new food sources being discovered, dairy products are not in as high demand as they used to. Before sodas, chips, and McDonalds, milk was used daily as a drink and milk products were in every meal. Another reason that less dairy farms are needed is because of technology. Technological advances have helped farmers increase the output of milk from cows. The most common used is farmers injecting hormones into cows to cause their udders to swell with more milk. This results in a smaller necessity for dairy farms.

(b) Since 1970, there has been an increase in the number of organic farms in the United States. One reason is media has spread the idea that it is proven that organic food is healthier for people. Because several people communicate through the media, several households today buy mostly or only organic food to stay healthy. Another reason for the increase of organic foods is not only have they been said to be healthier, but also are said to have less fat. Because most

#3

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Americans are concerned with self-image and weight, several switched to buying only organic foods and beverages.



# AP<sup>®</sup> HUMAN GEOGRAPHY

## 2009 SCORING COMMENTARY

### Question 3

#### Overview

This question required students to evaluate important trends in the geography of modern agriculture in one of the countries of the core region. They were asked to evaluate data presented in a graph and to connect those data to their knowledge of the processes of industrialization/economic development and urbanization.

Part A of the question asked students to identify and explain two factors that contributed to the decline in the number of dairy farms since 1970. This question assessed students' understanding of the changing spatial scale of agriculture, specifically how the increased size of operations has meant that a smaller number of farmers can meet the demand for milk. The question also determined if students understood how the efficiency of large farms makes it harder for smaller operations to compete in the marketplace.

Part B required students to describe two factors that have contributed to the increase of organic farms. This question assessed students' understanding of how cultural tastes or preferences for food types and environmental concerns impact the structure of agriculture.

Students needed to have a firm grasp of the spatial pattern of modern agriculture to answer all parts of this question successfully. They were helped if they understood and could describe commodity chains and the influence of culture on food production and consumption.

#### Sample: 3A

Score: 8

This essay demonstrates a fundamental understanding of the changes in agriculture in the United States in the past few decades. In part A the essay received 4 points for identifying and explaining two factors contributing to the decline in dairy farms: mechanization and "better agricultural machines," which mean that fewer farms are necessary "to sustain the US's need for dairy products" (2 points); and the displacement of farmers in urban areas—as land is bought up for development, "smaller, local dairy farms are quickly disappearing" (2 points). In part B the essay received 4 points for identifying and explaining two factors contributing to the increase in the number of organic farms: demand for organic products has increased due to health concerns of consumers ("healthy and organic products have become classy and popular") (2 points); and "the local farmer must . . . become more specialized" in order to compete (although they cannot compete with large commercial dairies, organic growers can offer "higher-quality food for a potentially higher price," indicating more profit would be made) (2 points).

#### Sample: 3B

Score: 6

The essay received full credit in part A and partial credit (2 points) in part B. In part A the essay was awarded 4 points for identifying and explaining two factors contributing to the decline of dairy farms: "the commercialization of agriculture" has created substantial economic advantages for large firms over small dairy farms (2 points); and increased milk production is achieved by using "genetically modified feed" for cattle (2 points). In part B the essay received 2 points for identifying and explaining that demand for organic products has increased ("even though they are more expensive") because consumers want to avoid foods that are genetically modified or have other additives.

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2009 SCORING COMMENTARY**

**Question 3 (continued)**

**Sample: 3C**

**Score: 4**

The essay received partial credit in parts A and B. In part A the essay received 2 points for stating that "[t]echnological advances have helped farmers increase the output of milk from cows" and explaining that this increased production is due to the use of hormones. No additional points were awarded in part A. In part B the essay received 2 points for identifying and explaining that increasing demand by consumers for healthier food choices occurred in part because the media have "spread the idea . . . that organic food is healthier for people," leading to more organic farms.