

AMI Day 4 Agriculture Classes - Mrs. Moore

Central Core (Agriscience). Invasive Plant Species.

1 Plants grow in a certain geographic area, called a range. Each
species is uniquely adapted to the climatic and environmental
conditions of that range. Over the course of many years, plants have
adapted features that allow them to survive extremes of temperature,
5 moisture, and soil conditions. Additionally they have adapted to
survive specific disease, insect, and animal pressures. A plant that has
adapted to its original range is called native species.

 Humans have occasionally carried unique plant species back
home from their travels around the globe. Not all of these foreign
10 species have survived the environmental or climatic conditions found
in our country. However, some plant species have proven more
adaptable to their new living conditions and have survived. These
species, which not only survive, but thrive in areas beyond their
native range, may become invasive species. According to the United
15 States Department of Agriculture, an invasive species is one whose
“introduction causes or is likely to cause economic or environmental
harm or harm to human health” (USDA, 2008). They thrive beyond
their natural range of dispersal. Invasive species thrive to the extent
that they often become weeds, or nuisance plants.

20 Why do these invasive species thrive in their new range? Often
the environmental and climatic conditions of the new range are
similar to that of their native habitat, allowing the invasive species to
survive. As the invasive species continues to survive, it frequently
finds that no competitive or predatory species exist in the new range.
25 Competitive species are those organisms that compete for food,
water, light, or space with the plant. Predatory species are those
organisms which eat the leaves, stems, roots, or flowers of another
plant species. These are often insects or animals. Lacking competitive
or predatory species, the invasive plant species not only survives, but
30 thrives, because no other organisms, aside from humans, are available
to contain them.

 While eventually becoming weeds, invasive plant species have
been collected and introduced for specific and honorable reasons.
People import invasive species for reasons such as landscaping
35 around homes, controlling the erosion as ground cover, feeding
livestock, and providing living fences and natural barriers. Even
though intentions were honorable, invasive plant species seemingly
outwitted humans and many have become weeds.

40 An example of an invasive plant species is kudzu. Kudzu is a
climbing perennial, semi-woody vine. Kudzu's original range was
Japan and China. It was introduced to the United States in the late
1800s as a means of ground cover for erosion control in the
southeastern part of the United States. Finding no natural predators or
competitors, kudzu spread quickly, growing up to one foot per day.
45 The main detrimental impact of kudzu is that it grows so rapidly and
with such dense foliage that it crowds out and smothers other plant
species. When driving in the South, it is not uncommon to see the
carpet-like kudzu plants completely covering roadsides, hillsides, and
even large trees. Kudzu is listed as an invasive species in states
50 ranging from Missouri and Illinois to Florida and Connecticut to parts
of eastern Texas.

Another invasive plant species that was imported to the United
States from Asia is multiflora rose. Multiflora rose is a thorny,
perennial shrub that grows to 15 feet tall. It was introduced to the
55 United States as a living fence for livestock and for ornamental
purposes in the 1860s. It is currently listed as an invasive species in all
of North America with the exception of the arid regions of the
western parts of America and Canada. Multiflora rose grows to form
dense, nearly impenetrable thickets of plants that out-compete native
60 plant species.

A final example of an invasive plant species is johnsongrass.
Johnsongrass is a tall perennial grass that grows in clumps reaching
heights of eight feet. It was introduced in the early 1800s from the
65 Mediterranean area. Johnsongrass is listed as an invasive plant
species in all 50 states, except Alaska, Maine, and Minnesota.
Johnsongrass possesses a tremendous power to reproduce quickly
through many prolific seeds and through its rhizomes, horizontal
stems that grow underground and produce roots and shoots.
70 Johnsongrass is listed as one of the 10 worst weeds in the world. It
displaces native vegetations and prohibits tree seedlings from
growing.

Control of invasive species is difficult primarily because they
reproduce so quickly and prolifically. They also out-compete native
75 plant species for light and water. While chemical controls usually
work effectively, they also kill native species. Biological controls
work as well, but biological controls often involve introducing a
second invasive species of animal, insect, or disease. Thus, the most
effective, but most expensive means of control is often human and
80 mechanical means.

Write the letter of the answer choice on your answer sheet.
We will input them into Google Classroom when we return to school.

1. What is a plant that is uniquely adapted to a specific habitat and geographic area called?
 - a. Range
 - b. Native species
 - c. Invasive species
 - d. Extinct species.
2. Which of the following resources do invasive species compete with existing plant species?
 - a. Space, light, and water.
 - b. Space, nutrients, and oxygen.
 - c. Light, nutrients, and oxygen.
 - d. Humidity, carbon dioxide, and predators.
3. Why would some people have thought that multiflora rose would have made a good living fence?
 - I. It is thorny.
 - II. It grows to a tall height of 15 feet.
 - III. It grows in rows.
 - a. I only.
 - b. II and III only.
 - c. I and II only.
 - d. I, II, and III.
4. In line 48, the term “carpet-like” refers to what growth habit of kudzu?
 - a. Growth of up to one foot per day.
 - b. Green, shaggy appearance.
 - c. Wide, flat main stems.
 - d. Dense, smothering foliage.
5. Many invasive species tend to be perennials. What does *perennial* mean?
 - a. A plant whose life cycle lasts only one year.
 - b. A plant whose life cycle lasts for two years, but with different forms each year.
 - c. A plant whose life cycle lasts year after year.
 - d. A plant that does not produce seeds.
6. What makes johnsongrass especially difficult to control?
 - a. It is tall.
 - b. It produces many seeds.
 - c. It reproduces via rhizomes.
 - d. It produces many seeds *and* via rhizomes.
7. Lines 32-38 describe some of the “honorable” reasons for introducing invasive species. What should be done in the future before introducing new species of plants outside of their natural range?
 - a. At the same time, introduce a competing species of insect or animal to limit the growth of the invasive species.
 - b. Examine the species limiting factors, such as climate, consumers, and soil conditions.
 - c. Introduce invasive species regularly because the strongest plants will survive and improve the ecosystem.
 - d. None of the above.
 - e. All of the above.

- 8.** What factors about the United States make it ideal for invasive species to grow?
- a.** Fertile soils.
 - b.** Temperate climate.
 - c.** Plentiful rainfall.
 - d.** All of the above.
- 9.** Not all species of plants introduced to our country from other countries are necessarily bad. What is the defining characteristic to determine whether a plant is invasive or not?
- a.** The plant grows rapidly.
 - b.** The plant competes for resources, such as light, water, and space.
 - c.** The plant is a nuisance.
 - d.** The plant does not produce a beneficial seed or fruit.
- 10.** Which of the following would be the best title for this passage?
- a.** Invasive species provide real benefits for humans.
 - b.** Invasive species: Weaker than native species.
 - c.** Invasive species: Opportunities for new technologies.
 - d.** Invasive species: Plants gone bad.

Name _____ Date _____ Class Period _____

AMI Day 4 Answer Sheet

Directions: After reading the short article, answer the multiple choice questions. Select the best answer from the choices provided and write the letter on this sheet.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____