

**YUSO 2017  
Invasive Species  
Exam Booklet**

Do NOT write in this booklet. Fill in all your answers in the accompanying answer sheet.

# YUSO 2017 Invasive Species Examination

## **Part 1 – Identification (125 pts)**

1.
  - a. Give the common and scientific name for this species.
  - b. Name the locations the species infects on an impacted animal.
  - c. Identify the mortality rate of impacted animals in the NE US.
  - d. What are the ecological effects of this species in regard to farmers?
  - e. For prevention, what should one do with backyard landscaping to improve the habitats of these impacted animals?
  
2.
  - a. Give the common and scientific name for this species.
  - b. What structure is attached to the achene? What purpose does it serve?
  - c. What moth is currently being employed for biological control?
  - d. In what location was the species first established successfully?
  - e. Explain the species' nicknames (NOT common name) in a biological context.
  
3.
  - a. Give the common and scientific name for this species.
  - b. Give this species' date and location of US introduction.
  - c. Describe this species' reproduction rate.
  - d. The larvae of which genus look alike to this species?
  - e. List two key identifying features of a female version of this species.
  
4.
  - a. Give the common and scientific name for this species.
  - b. Name the subfamily of this species.
  - c. Describe the conditions for this species' successful germination.
  - d. Name a grazing animal that uses this species as animal feed.
  - e. How does this species spread quickly?
  
5.
  - a. Give the common and scientific name for this species.
  - b. How does this species' veligers attach to any firm surface?
  - c. Describe this species' negative impact on cities and power plants.
  - d. What is being used to chemically control this species in open waters?
  - e. How does this species improve water clarity?
  
6.
  - a. Give the common and scientific name for this species.
  - b. How can one distinguish this species from *Lonicera sempervirens*?
  - c. Describe this species' vegetative method of dispersion.
  - d. List the biological agents used for prevention of this species.
  - e. When are this species' fruits produced?

## YUSO 2017 Invasive Species Examination

7.
  - a. Give the common and scientific name for this species.
  - b. How can one tell if this species' seed is not viable?
  - c. At maturity, how wide is this species?
  - d. Where has this species been commonly observed?
  - e. What herbicidal research is currently being developed to biologically control this species?
  
8.
  - a. Give the common and scientific name for this species.
  - b. From where did the monoecious form of this species come?
  - c. What are the negative impacts of this species' aggressive growth?
  - d. What unique characteristic allows this species to be identified in the field?
  - e. What is generally considered the most effective way to control this species?
  
9.
  - a. Give the common and scientific name for this species.
  - b. What were the means of introduction of this species?
  - c. Describe two features of the leaves of this species.
  - d. Describe how this species carried out allelopathy.
  - e. List the three broad categories of biological controls used against this species.
  
10.
  - a. Give the common and scientific name for this species.
  - b. Since 1996, this species has not been found in which US locations?
  - c. How do this species' seeds disperse?
  - d. Describe this species' function as a medicinal herb.
  - e. How does the apiculture industry utilize this species' abundance of flowers?
  
11.
  - a. Give the common and scientific name for this species.
  - b. After a tree becomes infected with this disease, how long will mortality take?
  - c. Describe how healthy trees can become impacted by nearby, infected trees.
  - d. Which type of oak trees are most susceptible to this species?
  - e. Why are sap beetles attracted to oak trees infected with this species?
  
12.
  - a. Give the common and scientific name for this species.
  - b. Describe why this species has a characteristic resemblance to bamboo?
  - c. Why is removing this species by excavation difficult?
  - d. How does Japan primarily use this species?
  - e. Name the fungus that shows significant potential in biologically controlling this species.

## YUSO 2017 Invasive Species Examination

- 13.
- Give the common and scientific name for this species.
  - Name the order this species falls into under the scientific classification.
  - When and where was this species introduced into the US?
  - How is this species' seed driven into the soil?
  - How can one prevent this species from regaining dominance after prevention treatment?
- 14.
- Give the common and scientific name for this species.
  - What does this species feed on in an impacted tree?
  - In the southern range, what is the length of mortality for impacted trees?
  - When do this species' reproductive generations overlap?
  - Which type of control is most effective for controlling this species?
- 15.
- Give the common and scientific name for this species.
  - How tall can this species grow up to?
  - What mechanism does this species' seeds have to aid in dispersal?
  - What is popularly considered the most effective biological control for this species?
  - Which part of this species is considered to be most nutritious?
- 16.
- Give the common and scientific names for this species.
  - How tall does this species grow?
  - What chemicals does this species produce to compete with native plants, and how do these chemicals act?
  - How long can seeds remain dormant in the soil before germination?
  - What control method should be used and when to best control this species?
- 17.
- Give the common and scientific names for this species.
  - What is a defining action of this group of species that can cause injury to people?
  - How large can these species grow?
  - What water system is most threatened by this group of species?
  - How was this species introduced to the United States?

## YUSO 2017 Invasive Species Examination

- 18.
- Give the common and scientific names for the species that has infected this tree.
  - What city in the United States was most famously impacted by this species?
  - What is the furthest confirmed westward spread of this species to date?
  - How does this species spread?
  - Name one action taken by the USDA to control this species.
- 19.
- Give the common and scientific names for this species.
  - How can this species be distinguished from native species?
  - How does this species move between bodies of water?
  - List two impacts of this species on invaded ecosystems.
  - What conditions can this species tolerate?
- 20.
- Give the common and scientific names for this species.
  - From where does this species originate?
  - What is a characteristic of ecosystems invaded by this species?
  - What is the preferred prey of this species?
  - Name a characteristic of the eggs of this species.
- 21.
- Give the common and scientific names for this species.
  - What species of tree does this species target?
  - When and where was this species first observed in the United States?
  - Why do trees die as a result of this species?
  - What is one industry that has been impacted by this species?
- 22.
- Give the common and scientific names for this species.
  - Name three tree species that this species prefers.
  - List two ways in which this species spreads.
  - How can you distinguish this species' larval stage from other worms or caterpillars?
  - List one of two methods for killing eggs of this species.
- 23.
- Give the common and scientific names for this species.
  - What is this species' native range?
  - How is it introduced to new ecosystems?
  - What are the ecological impacts of this species?
  - List two successful methods of control for this species.

# YUSO 2017 Invasive Species Examination

24.

- a. Give the common and scientific names for this species.
- b. What is the longest length this species can grow?
- c. How does this species reproduce?
- d. What can impact this species' ability to establish?
- e. What biological control method has had limited control success? Give the common or scientific name of the species.

25.

- a. Give the common and scientific names for this species.
- b. To what family does this species belong?
- c. What states has this species invaded?
- d. What are the environmental impacts of this species?
- e. What is the ratio of male to female young that hatch from eggs?

## **Part 2 – Short Answer (44 pts)**

1. Define the following terms in one sentence each (10 points):
  - a. Invasive Species
  - b. Exotic Species
  - c. Non-intentional Introduction
  - d. Cultural Control
  - e. 10% Rule
2. What are five characteristics of an invasive species? (5 points)
3. Give three examples of accidental release species and three examples of intentional release species. Give the common name, the scientific name, and how the species was introduced. (9 points)
4. List five methods of invasive species control. Give the method, one positive side effect (NOT reducing the invasive species' population) and one negative side effect. (15 points)

## **Part 3 – Tiebreaker Questions (2 pts)**

1. How much do invasive species cost the United States annually?
2. What is the Lacy Act?