MYCOLOGY - B 2027

1. **DESCRIPTION:** Students will be assessed on their **general mycology knowledge** and identification skills. Students will be asked to identify adult-form fungi and select spore prints by **indicated taxonomy,** answer questions about fungi, and use or construct a dichotomous key.
   A TEAM OF UP TO: 2 **APPROXIMATE TIME:** 50 minutes

2. **EVENT PARAMETERS:**
   a. Each team may bring one (**1**) magnifying glass and one **(1) three-ring binder of any size containing information in any form and from any source, attached using the available rings. Sheet protectors, lamination, tabs and labels are permitted.** It is recommended that students carry a **copy of the Mycology List** in their binder.
   b. Each team may also have one commercially produced field guide which may be tabbed and annotated.
   c. Teams are not permitted to bring specimens or samples to the event.

3. **THE COMPETITION:**
   a. The event may be run either as a written exam, or as stations in which students move between stations and have a specified amount of time for each station.
   b. Participants may not return to stations but may continue to work on their responses throughout.
   c. Identification will be limited to specimens on the **Mycology List**, but other samples may be used to illustrate key concepts.
   d. Questions will be chosen from the following topics:
      i. Identification of fungal specimens on the **Mycology List**. Taxonomic classifications are restricted to those on the Mycology List. **No more than 50% of the competition will require giving a scientific/common name.** Additionally, students may be asked to identify based on partial photos/descriptions/spore prints, distinguish between toxic and benign lookalikes, or infer the characteristics of a specimen based on its scientific name.
      ii. Taxonomic Relationships & Evolutionary History
      iii. Anatomy, life cycle, notable adaptations, and biochemical properties.
      iv. Ecological relationships, including symbiotic, predatory, infectious interactions and habitat selection.
      v. Human use as medicine, food, religion & danger to humans through poisoning and infection.
      vi. Cultivation (in human, ant, and termite societies).

4. **SAMPLE ACTIVITIES:**
   a. Identify scientific name and/or common name of the provided sample.
   b. Based on the name *Saccharomycetes*, what is a likely food source for specimens in this order?
   c. What unique feature distinguishes the specimens shown in the pictures?
   d. Why is the specimen shown harmful to the agricultural industry?

5. **SCORING:**
   a. Highest score wins.
   b. Selected questions may be used as tiebreakers.

MYCOLOGY LIST

CLADE STRAMENOPILES
Phylum Oomycota (water molds)
Phylum Bigyra
- ***Class Labyrinthulomycetes*** (slime nets)

CLADE AMORPHOEA
Phylum Amoebozoa
- ***Class Myxogastria*** (slime molds)

KINGDOM FUNGI
Phylum Aphelidiomycota
Phylum Sanchytriomycota
Phylum Blastocladiomycota
Phylum Chytridiomycota
Phylum Mucoromycota
- ***Class Kickxellomycotina***

Phylum Zoopagomycota
Phylum Entomophthoromycota
Phylum Entorrhizomycota
Phylum Glomeromycota (AM fungi)
Phylum Ascomycota (sac fungi)
- ***Class Taphrinomycetes***
- ***Class Saccharomycetes*** (budding yeasts)
  - *Order Saccharomycetales*
- ***Class Pezizomycetes***
  - *Order Pezizales*
    - *Genus Morchella*
    - *Genus Tuber*
- ***Class Leotiomycetes***
  - *Order Helotiales*
  - *Order Rhytismatales*
- ***Class Laboulbeniomycetes***
- ***Class Sordariomycetes***
  - *Order Hypocreales*
    - *Genus Fusarium*
    - *Genus Cordyceps*
    - *Genus Claviceps*
  - *Order Glomerellales*
    - *Genus Colletotrichum*
  - *Order Sordariales*
    - *Genus Neurospora*
  - *Order Xylariales*
- ***Class Dothideomycetes***
  - *Order Pleosporales*
  - *Order Capnodiales*
    - *Genus Cladosporium*
  - *Order Botryosphaeriales*
  - *Order Venturiales*
- ***Class Eurotiomycetes***
  - *Order Eurotiales*
    - *Genus Aspergillus*
    - *Genus Penicillium*
- ***Class Eurotiomycetes cont.***
  - *Order Onygenales*
    - *Genus Coccidioides*
    - *Genus Histoplasma*
  - *Order Chaetothyriales*
- ***Class Lecanoromycetes***
  - *Order Lecanorales*
  - *Order Peltigerales*
  - *Order Teloschistales*
- ***Class Lichinomycetes***
- ***Class Geoglossomycetes***
- ***Class Xylonomycetes***
- ***Class Orbiliomycetes***

Phylum Basidiomycota (club fungi)
- ***Class Pucciniomycetes***
  - *Order Pucciniales*
  - *Order Septobasidiales*
- ***Class Ustilaginomycetes*** (smut fungi)
- ***Class Bartheletiomycetes***
- ***Class Wallemiomycetes***
  - *Order Wallemiales*
- ***Class Tremellomycetes***
  - *Order Tremellales*
  - *Order Trichosporonales*
- ***Class Dacrymycetes***
  - *Order Dacrymycetales*
- ***Class Agaricomycetes***
  - *Order Agaricales*
    - *Genus Agaricus*
    - *Genus Amanita*
    - *Genus Lycoperdon*
    - *Genus Psilocybe*
    - *Genus Coprinus*
    - *Genus Pleurotus*
    - *Genus Lentinula*
    - *Genus Cortinarius*
    - *Genus Armillaria*
    - *Genus Omphalotus*
    - *Genus Mycena*
    - *Genus Lepiota*
    - *Genus Chlorophyllum*
    - *Genus Flammulina*
  - *Order Boletales*
    - *Genus Boletus*
    - *Genus Suillus*
    - *Genus Scleroderma*
    - *Genus Leccinum*
    - *Genus Tylopilus*
    - *Genus Gomphidius*
    - *Genus Paxillus*
    - *Genus Rhizopogon*

Class Agaricomycetes cont.

- *Order Hymenochaetales*
  - *Genus Inonotus*
  - *Genus Trichophyton*
- *Order Lepidostromatales*
- *Order Auriculariales*
  - *Genus Auricularia*
  - *Genus Exidia*
  - *Genus Pseudohydnum*
- *Order Cantharellales*
  - *Genus Cantharellus*
  - *Genus Hydnum*
  - *Genus Tulasnella*
- *Order Russulales*
  - *Genus Lactarius*
  - *Genus Russula*
  - *Genus Hericium*
- *Order Polyporales*
  - *Genus Ganoderma*
  - *Genus Trametes*
  - *Genus Grifola*
  - *Genus Fomes*
  - *Genus Cerioporus*
  - *Genus Daedalea*
  - *Genus Laetiporus*
- *Order Sebacinales*
- *Order Phallales*
  - *Genus Phallus*
- *Order Geastrales*
  - *Genus Sphaerobolus*
  - *Genus Radiigera*
- *Order Gomphales*
  - *Genus Turbinellus*

Note: Mycology List is based on the following sources:

Fungal diversity, evolution, and classification, David Hibbett, László G. Nagy, R. Henrik Nilsson

Species Fungorium

Outline of Fungi