# Identification of Common Spores

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# What is mold?

- Mold is considered a sub-group of the Fungi Kingdom
- Present on clothing, carpet, air we breathe, everywhere
- Produce spores that are extremely small and can be airborne
- Due to their light weight, mold spores are often floating in the air both outdoors and indoors

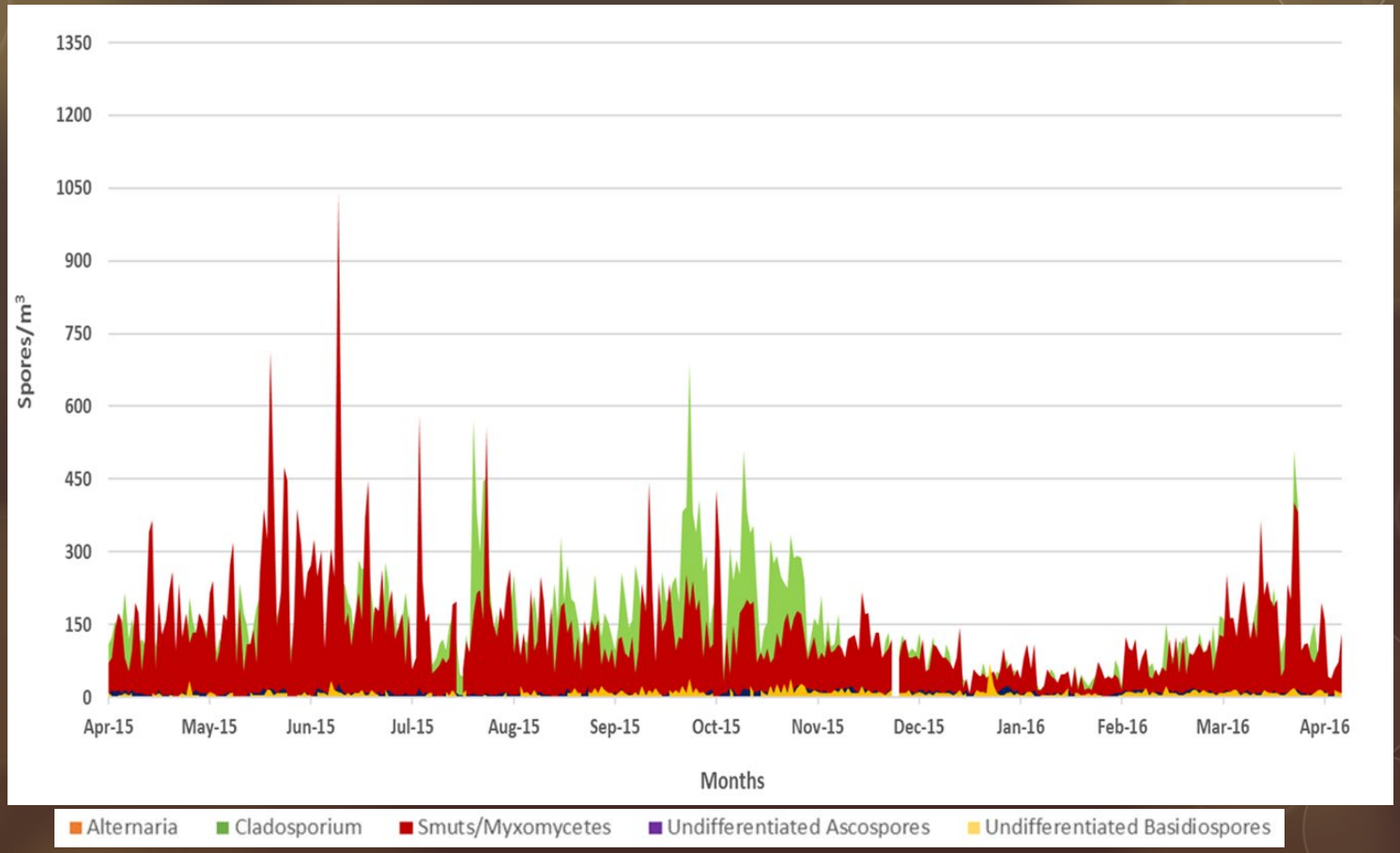
# Mold Basics

- Molds are a part of the natural environment
- Breaks down organic matter
- Mold should be avoided indoors
- Mold can grow on almost any surface
- Water or excessive moisture speeds up mold growth

# Health Effects of Mold

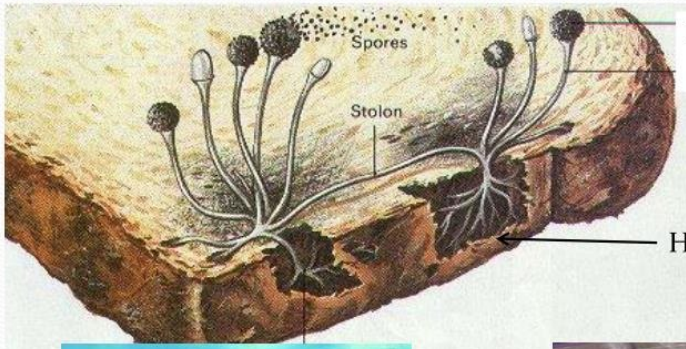
- Allergic reaction = by far the most common, inhalation of spores or touching
- • Asthma = mold spores can trigger or make asthma worse
- • Hypersensitivity pneumonitis = develop after acute or chronic exposure
- Runny nose, scratchy throat and sneezing. Most of us know this allergic illness as “hay fever” or “allergic rhinitis.

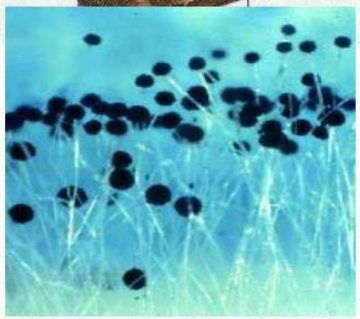
# What's happening in your neighborhood?



# Mold Around Us

## Bread Mold



*Rhizopus* -black bread mold

# Mold Around Us

# Can You Eat Foods With Mold?

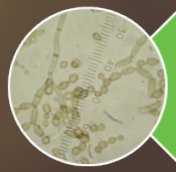
Moldy foods that people eat regularly include:

- some packaged fruit juices
- bleu cheese
- soy sauce
- stilton cheese

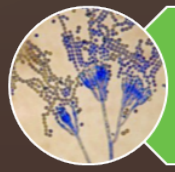
# Mold Around Us

# Just Add Water and They Grow

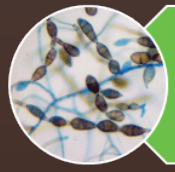
# Common Indoor Molds



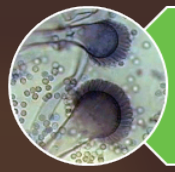
Cladosporium



Penicillium



Alternaria



Aspergillus

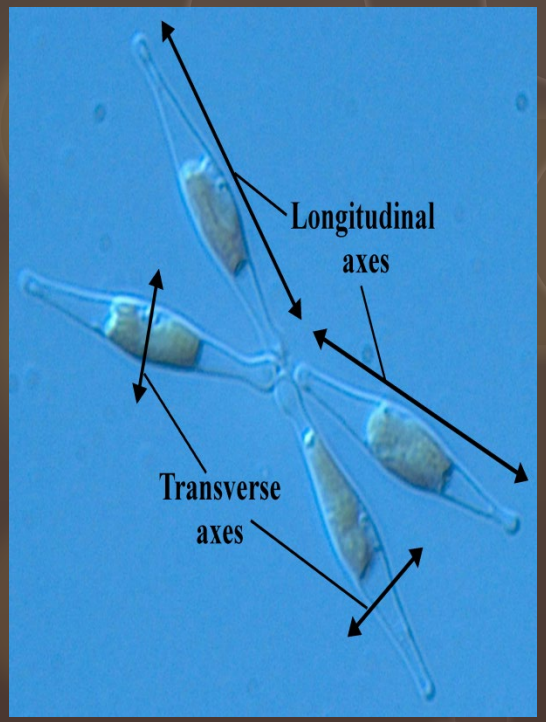
# *Alternaria*

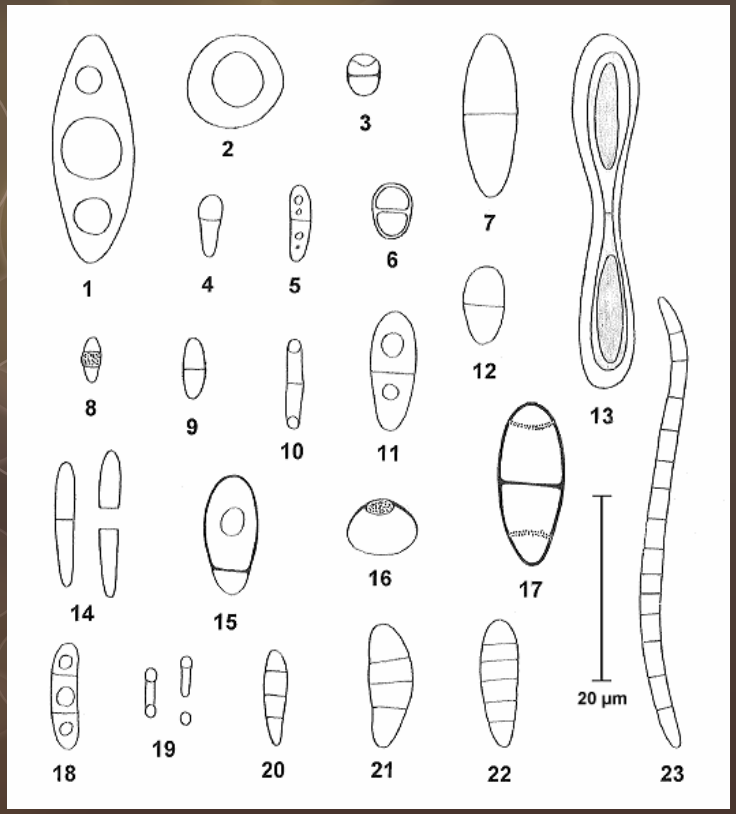
- Name
  - *Alternaria* conidia – "drumstick"
  - Second most abundant component of dry air spora
- Shape
  - Large multicellular spores
  - Septa are both beaked and produced in chains
  - Attachment scars visible at the tip of the beak
  - Various shades of brown
- Size
  - 7 µm X 18 µm to 15 µm X 75 µm
- Peak Concentrations
  - Late summer or fall
    - During afternoon hours with high wind gusts

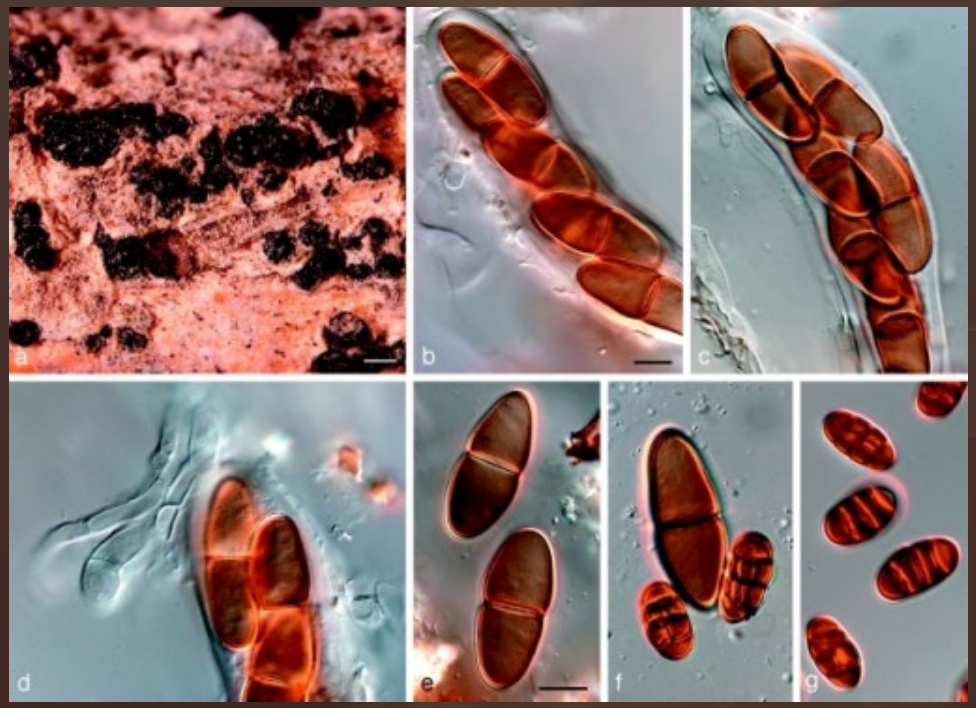
1000X

# Ascospores

- Sexual spores produced by ascomycete fungi
- Vary enormously in size, shape, color and features
- Shape
  - Single-celled without any internal septa, two-celled with single septum, or multi-celled with many septa
  - Multi-celled spores can be transverse or longitudinal
  - Color ranges from colorless to dark brown and black spores
  - No attachment scar
- Size
  - 5 µm to over 100 µm
- Peak Concentrations
  - Rainy periods but can be found during early morning hours or high humidity



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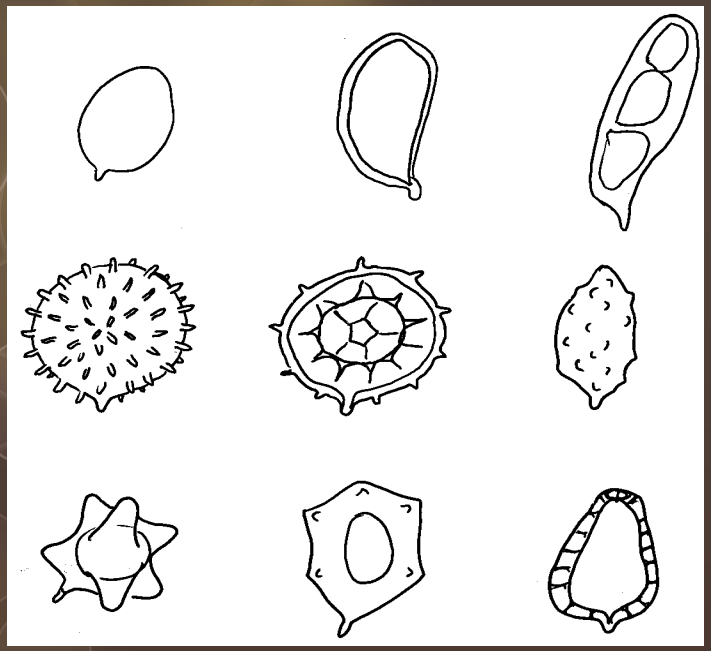
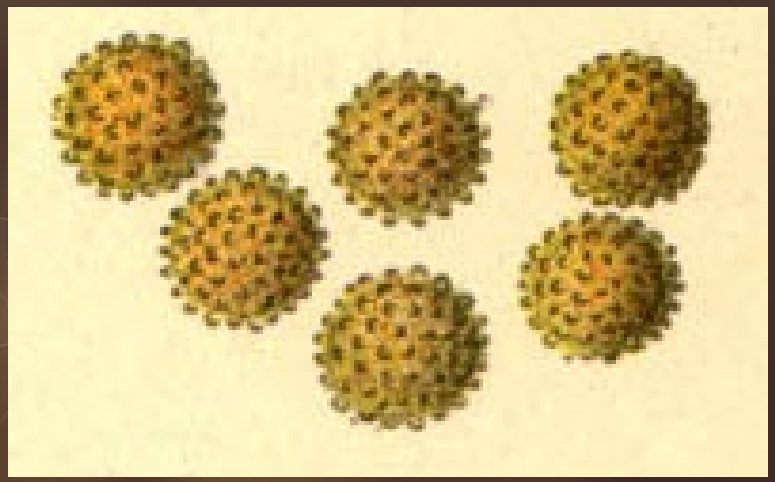
# Basidiospores

- Sexual Spores produced by basidiomycetes
  - Mushrooms, bracket fungi, and puffballs
- Wide range in shape, size, and color
- Shape
  - ALWAYS single-celled
  - Globose, elliptical, fusiform, nodulose, angular, or irregular
  - Spore walls can be smooth or ornamented with spines, warts or ridges
  - Yellow, brown (various), or black in color
- Size
  - Small; 5 to 12 µm
- Peak Concentrations
  - Pre –dawn hours when humidity is high





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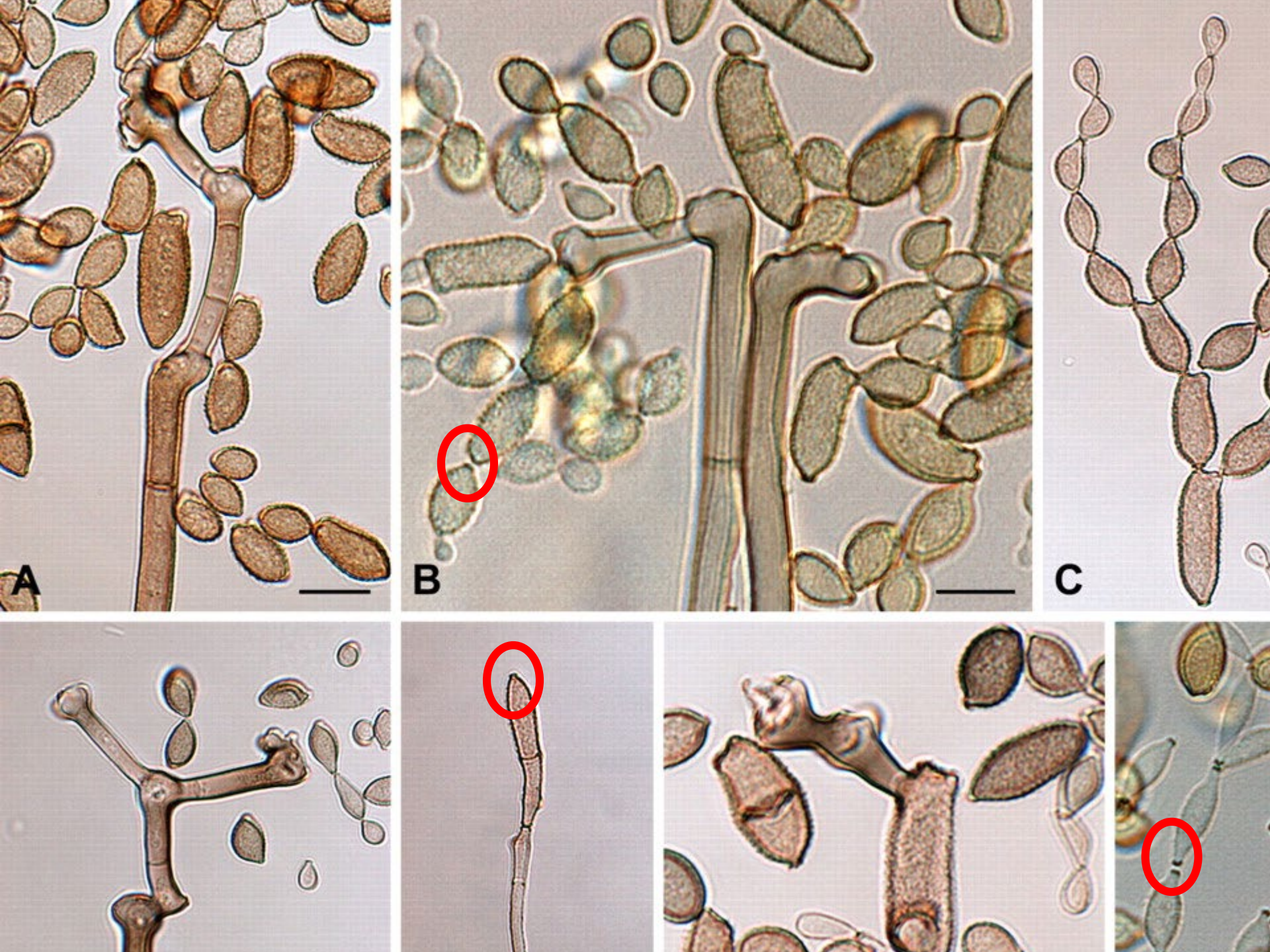
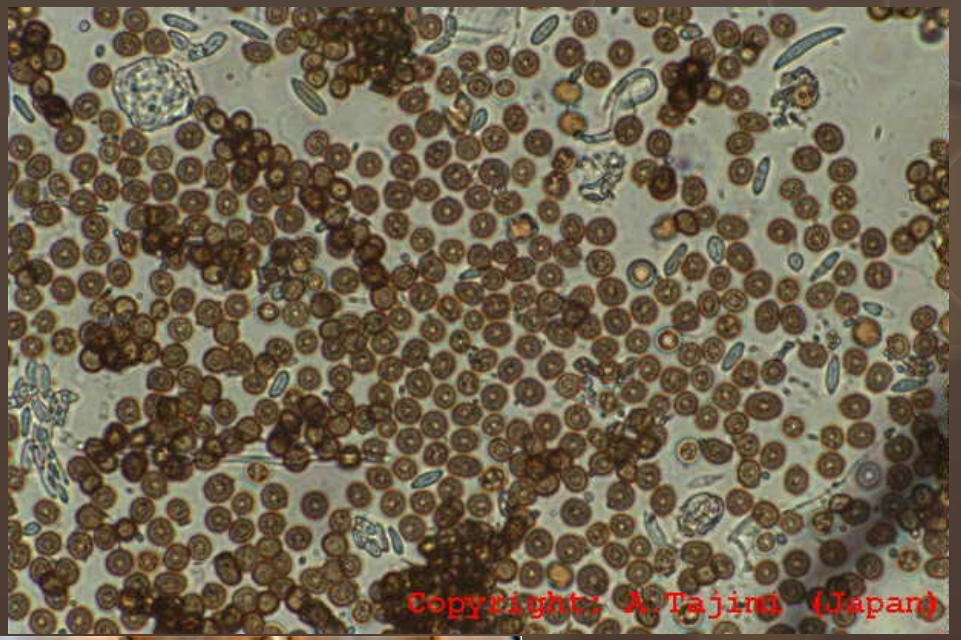
# *Cladosporium*

- Abundant airborne spores in temperate areas (90% of the U.S.)
- Asexual fungi
- Shape
  - Ellipsoidal to cylindrical
  - Pigmented with yellow to light brown
  - Produced in chains , may be unicellular or have two septa
  - Prominent attachment scars
- Size
  - Varies from 3 µm to 25 µm
- Peak Concentrations
  - Detected year round in many areas
  - Highest levels from late spring to early fall


A
B
C

# Smuts

- Common Name
  - Black, dusty spores that are plant pathogens
- 1,200 species of smuts within 50 genera
- Shape
  - Globose; with smooth, spinney, or reticulate walls
  - Yellow to brown in color
- Size
  - 3 to 24 µm
- Peak Concentrations
  - Low humidity and gusty winds promote spore dispersal
  - Peak sunshine hours and high atmospheric pressure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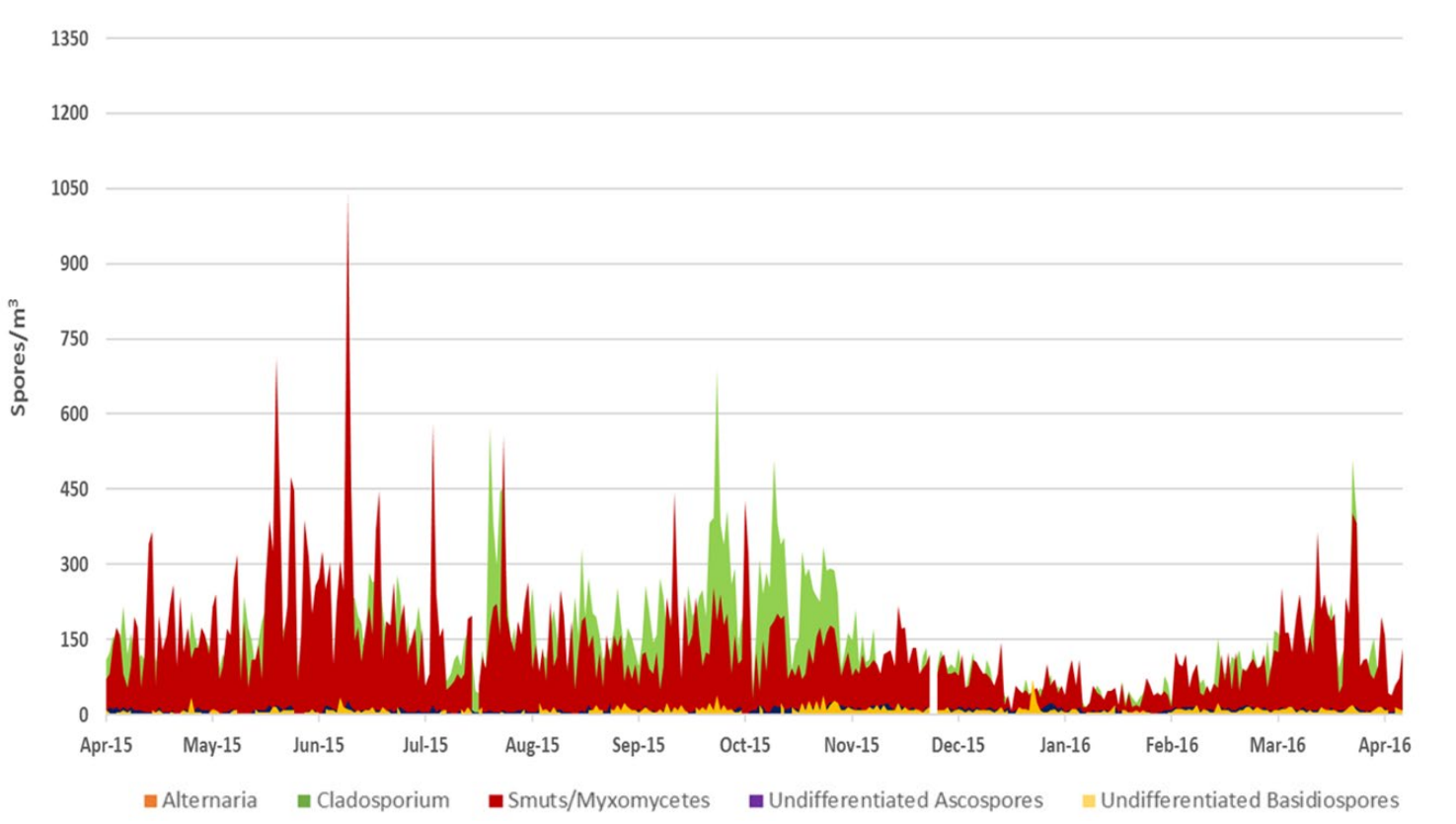
# Nearest Collection Sites

- Joseph Neal Elementary School- 33 Miles
- Palo Verde High School - 27 Miles

# What is in your neighborhood



# Current Sites

- Total of 6 stations around the valley
- UNLV, Jean, 1 High School, 2 Middle Schools, and 1 Elementary School.
- Future sites in Henderson, Boulder City, and Southwest.

# Questions?/Comments!