BACKGROUND

- Cryptococcus is a genus of yeast with many species, and is found in the environment.
- Few species of Cryptococcus are capable of causing infection in humans.
  - Notably causes meningitis and pneumonia.
  - Infects immunocompetent and immunocompromised hosts.
- C. neoformans and C. gattii comprise the overwhelming majority of infections.
- Approximately five cases of cryptococcal infections are diagnosed at Aurora yearly.
- Cryptococcus is infrequently isolated from the environment, despite environment being the presumed infection source.
- No reported isolations in Wisconsin since 1964.
- C. gattii endemic areas are expanding worldwide.

METHODS

- Samples were obtained from tree structures and other natural and built surfaces from Northern and Southern WI (103 samples) and NE Ohio (8 samples) from April-December, 2017. Samples of material were collected using cotton (38 samples) and liquid Amies elution (73 samples) swabs and were maintained at 4°C prior to plating.
- Samples were incubated at 35°C on Stab (birdseed) agar. Colonies suspicious for Cryptococcus were identified by tan appearance on Stab agar.
- Suspicious colonies were then incubated on Sabouraud dextrose and brain-heart-infusion agar at 20 and 37°C to further isolate these colonies and identify growth at ambient versus body temperature.
- These colonies were additionally incubated on urea agar to evaluate for urease activity.
- Lastly, these colonies were examined microscopically with India ink with particular attention given to capsule identification.

RESULTS

- Liquid Amies elution swabs and isolation at 35°C reduced background mold growth.
- Of the 111 samples, two isolates of Cryptococcus-like yeast identified from the same weeping willow tree in Greenbelt, WI.
- Characteristics of isolates included:
  - Tan isolates on Stab agar that appeared very similar to Cryptococcus.
  - Grew at 37°C.
  - Urease positive.
  - Capsule present, albeit thin rather than broad.
- One isolate tested via matrix assisted laser desorption/ionization (MALDI) technology did not match with any database organism.
- No putative pathogenic Cryptococcus was isolated from these samples, consistent with the 0-10% isolation success reported in the literature.

OBJECTIVE

To isolate pathogenic Cryptococcus from Wisconsin natural sites.

CONCLUSIONS

Isolation of these Cryptococcus-like yeasts suggests that further isolation attempts with this technique may result in isolation of pathogenic Cryptococcus strains from the environment in Wisconsin.