PEMERIKSAAN JAMUR

DEPARTEMEN MIKROBIOLOGI, FKIK UMY

TIK PRAKTIKUM

1. **Mahasiswa mampu melakukan identifikasi jamur Trycophyton**

2. Mahasiswa mampu melakukan identifikasi jamur Aspergillus

3. Mahasiswa mampu melakukan identifikasi jamur Candida

FUNGI

- Eukariotik non fotosintetik
- Heterotrof
- Saprofit /parasitik
- Uniseluler/filamentous
- Dinding sel chitin/polysaccharida
- Berkembang biak dng spora (sex/asexual)
- Tdr Mold dan yeast

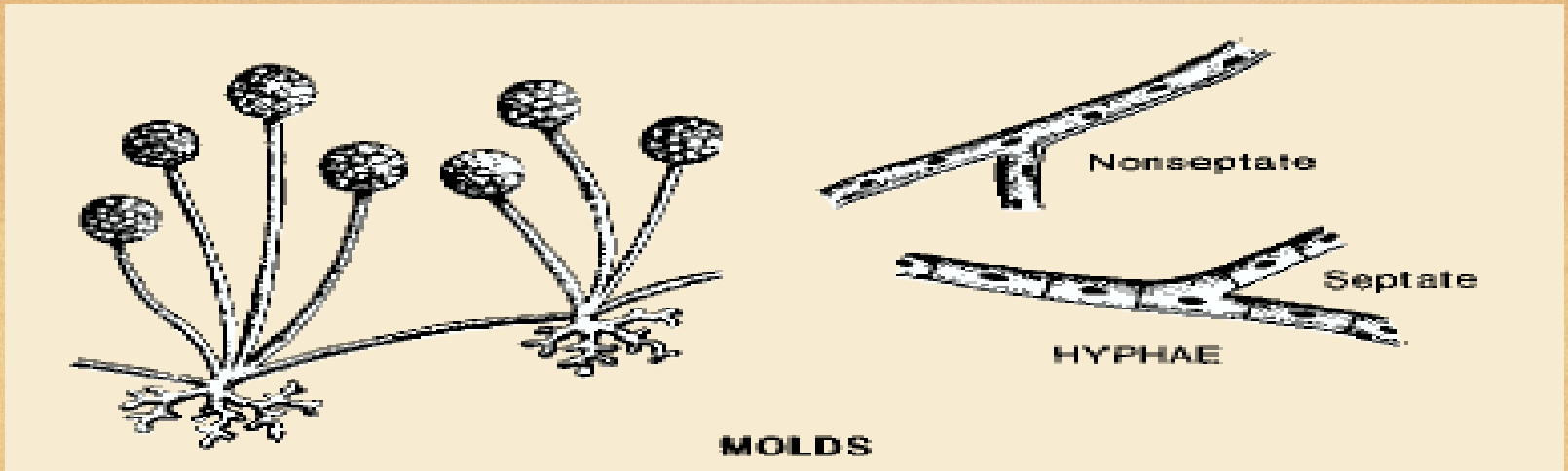
Mold

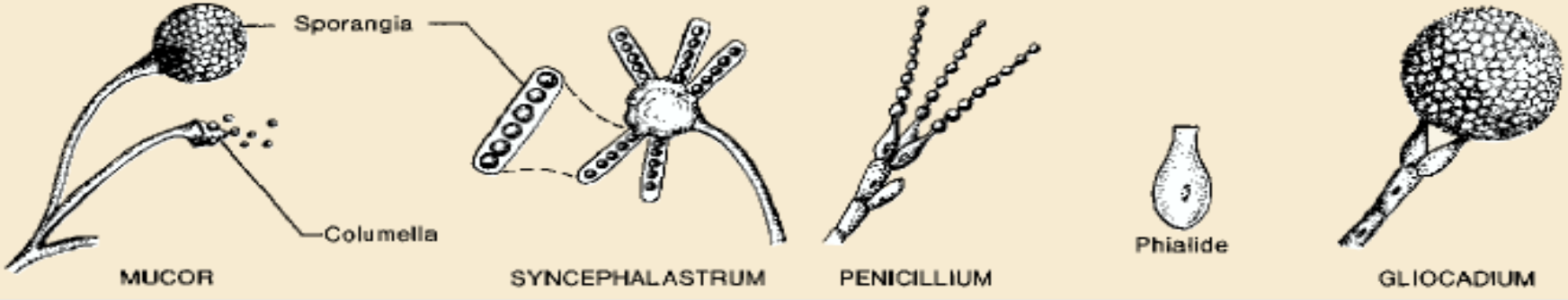
- **Hifa : septa/asepta**
- **Spora:**

  - aseksual (sporangiospore, conidia)

  - Konidia: phialospore, blastoconidia, arthrospore, chlamydospore

  - seksual: zygospore, ascospore, basidiospore





1. SPORANGIOSPORES
(Within Sporangia)

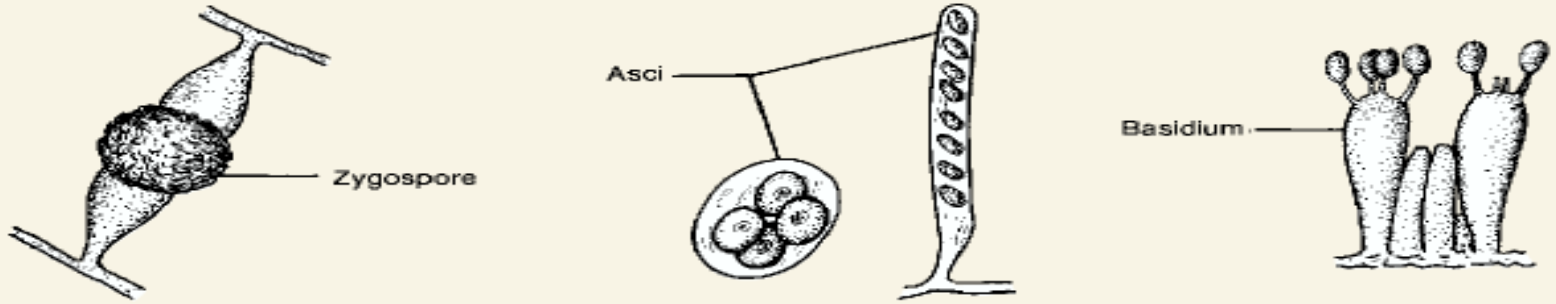
2. PHIALOSPORES
(Conidia on Phialides)

3. BLASTOCONIDIA
(Formed by Budding)

4. ARTHROSPORES
(By Separation)

5. CHLAMYDOSPORES
(Large, Round)

6. MACROCONIDIA
(Multicelled Conidia)



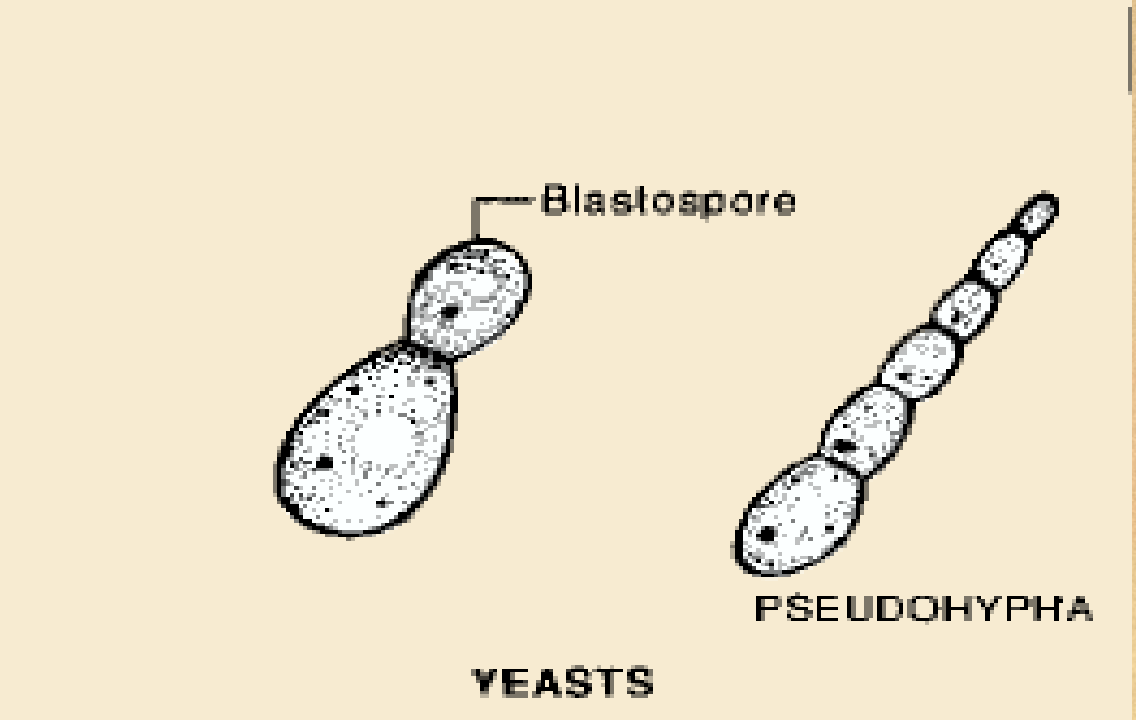
ZYGOSPORE
(Zygomycotina)

ASCOSPORES
(Ascomycotina)

BASIDIOSPORES
(Basidiomycotina)

Yeast

- **Tanpa hifa (pseudohyphae)**
- **Asexual spore: blastospore/buding,**



Klasifikasi Penyakit Jamur

1. **Berdasar letak Geografis**
   - **jamur dpt menyerang slrh permk bumi : Trikopitosis, Histoplasmosis**
   - **Jamur hanya menyerang bbrp bagian di dunia : Blastomikosis (Amerika Utara)**

2. **Berdasar Morfologi Koloni**
   - **Jamur berfilamen : Trikophyton, Mikrosporon**
   - **Jamur ragi : Candida**
   - **Jamur btk ragi & berfilamen (powdery) : pengaruh suhu inkubasi**

3. Berdasar bentuk Klinis

a. **Mikosis supefisialis : jamur menyerang lapisan luar (korneum) dari kuku,kulit & rambut. Ada 2 bentuk :**

- **Dermatofitosis : *tinea cruris, tinea corporis* dll, (genus Trichophyton, Microsporum dan Epidermophyton)**
- **Non dermatofitosis : *T. versikolor, Piedra hitam, P. Hitam***

b. Mikosis Intermediate/Sub kutis → menyerang kulit mukosa & sub kutis serta alat dalam (*Misetoma*)

c. Mikosis profunda/Sistemik → menyerang subkutis dan alat-alat dalam (Aspergillosis, Kromoblastomikosis)

Diagnosa Lab.

1.Bhn pemeriksaan Mikosis

- **Superfisialis →kerokan kuku, kulit, rambut**
- **Subkutis →pus, bhn aspirasi, biopsi**
- **Profunda /sistemik →feses, rektal swab, sputum, biopsi, vaginal swab**

2. Cara pemeriksaan jamur

a. langsung

- preparat natief → BP + KOH 10%
- Pengecatan →sederhana (LP, LPCB), diferensial (gram, GMS, PAS), spesial (tinta cina, mucicarmine)

b.pembiakan /kultur :

- Med.sabouroud dextrose agar + kloramfenikol, mycosel, CMT-agar, inkubasi 25-30°C, 1 minggu

-l btk koloni ragi (lembek), filamen / kapas)

Pengambilan Kulit, kuku, rambut

(1) Kulit

- utk pemeriksaan jamur

- kulit dibersihkan alkohol 70%.

- dikerok bag.tepi lesi yg tertutup skuama.

- kerok dng skalpel, miring dng sudut 45°.

- anak kecil → gunakan celophane tape tempelkan pd kulit.

(2) rambut:

- rambut yg suram, mudah rontok, tdk mengkilat, dipotong → masukkan pd media Sabouraud dextrase agar.

(3) Kuku

- kuku dikerok di bag.distal bag.bawah kuku antara kulit & kuku.
- Bag.proximal pd basis kuku di bwh kulit dng sedikit diangkat.

Candidiasis

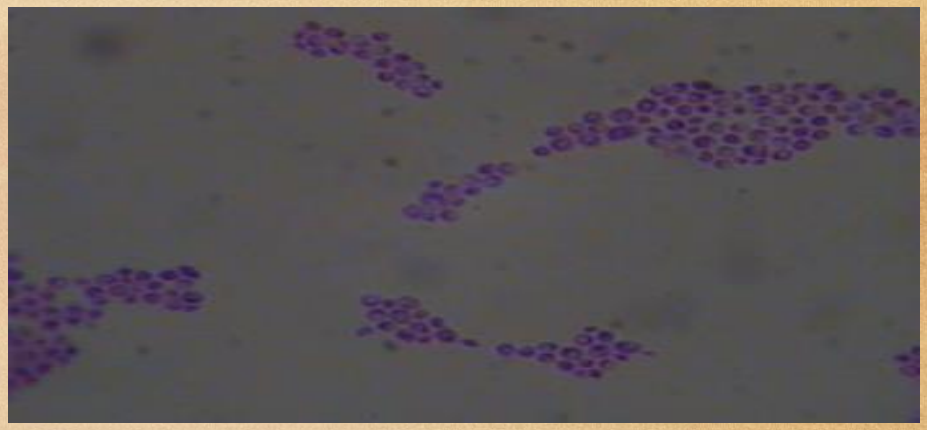
Candida

Mikroskopik:

- Sel btk bulat oval
- Tdk punya hifa/pseudohifa

Makroskopik:

- koloni: pasta
- Warna: putih kekuningan
- Permukaan: halus, licin



Candida albicans

Penyakit Candidiasis

Infeksi *Candida* biasanya terjadi pada pasien :

1. mengalami perubahan pada imunitas seluler, flora normal maupun proses fisiologi yang normal
2. Pemakaian AB dan steroid jangka panjang
3. Prosedur invasive, seperti pembedahan jantung, pemakaian kateter dll

Aspergillosis

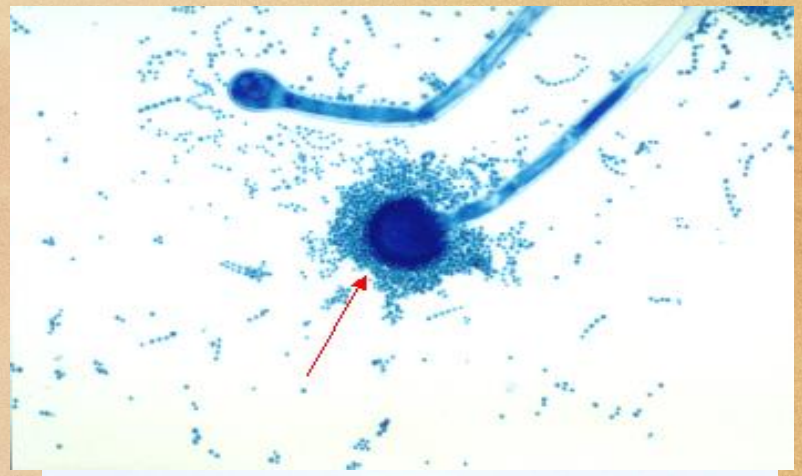
Aspergillus

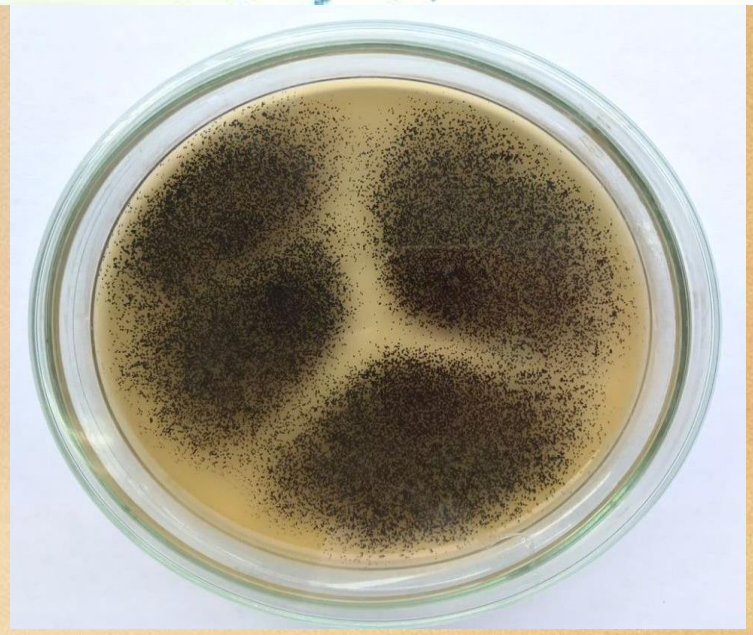
Mikroskopik:

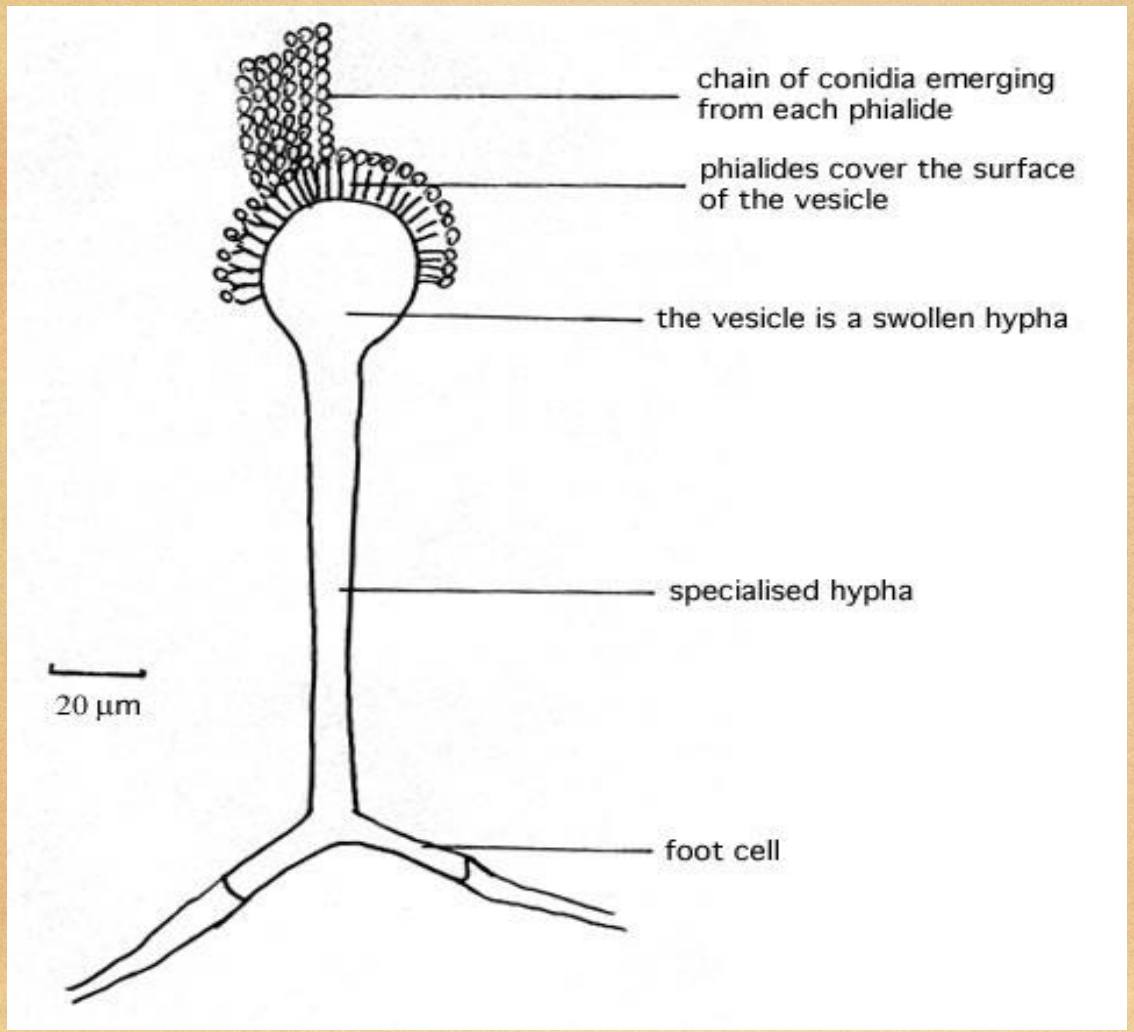
- Kotak spora btk bulat
- punya hifa bercabang
- dikotom

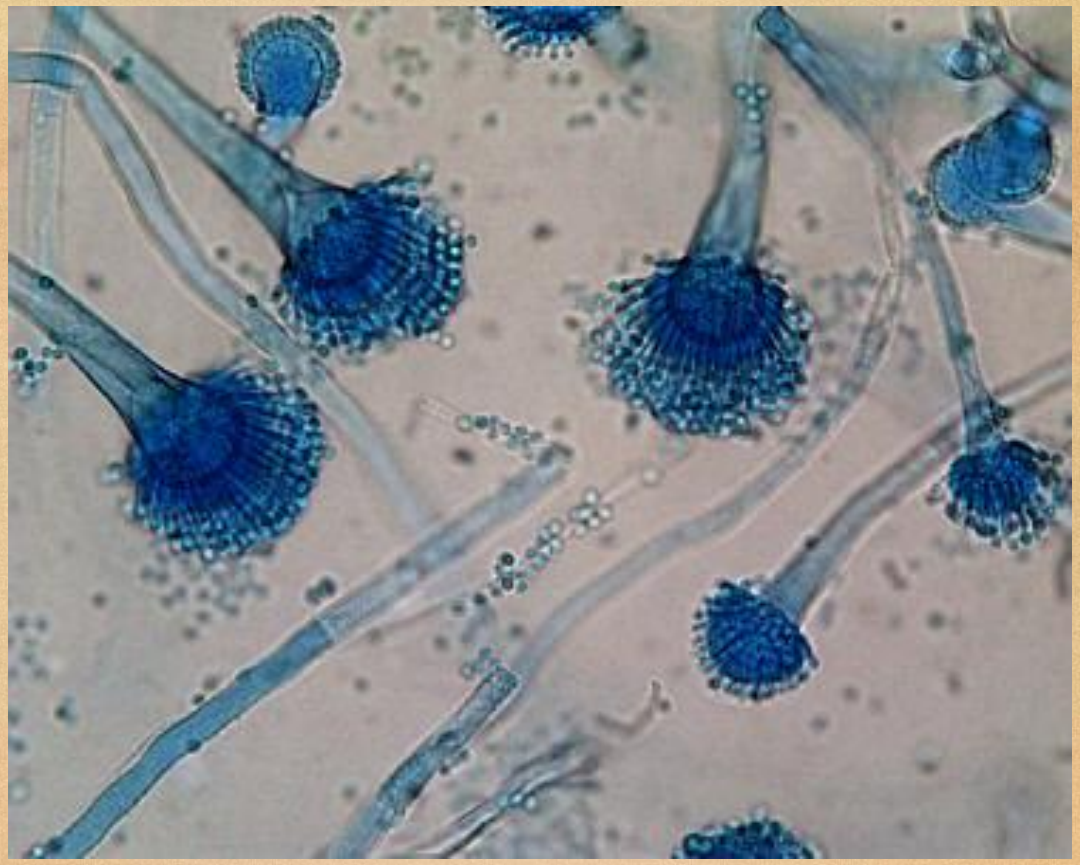
Makroskopik:

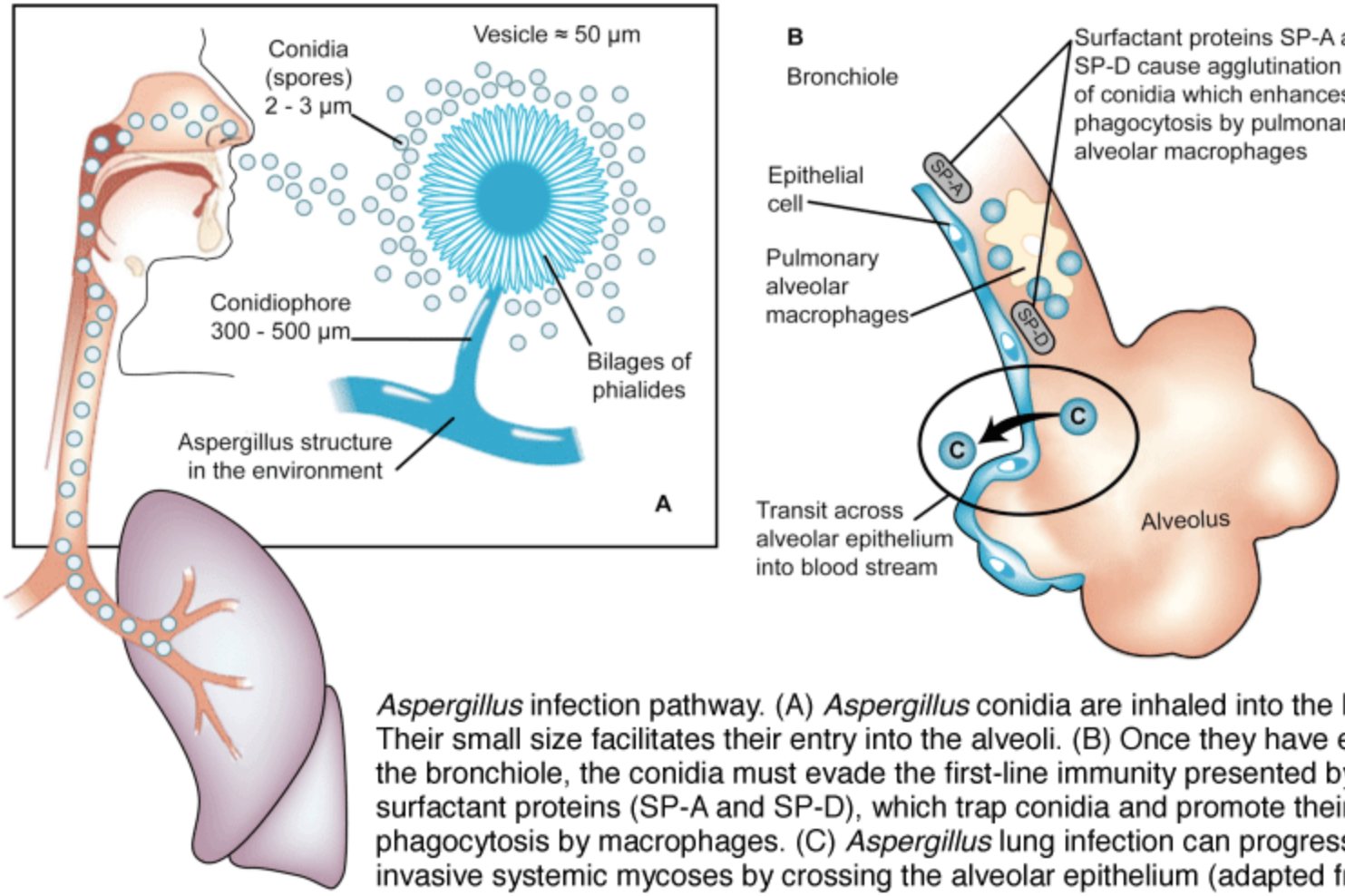
- koloni: powder
- Warna: hitam
- Permukaan: menonjol kasar






chain of conidia emerging from each phialide
phialides cover the surface of the vesicle
the vesicle is a swollen hypha
specialised hypha
20 µm
foot cell





Aspergillus infection pathway. (A) *Aspergillus* conidia are inhaled into the lung. Their small size facilitates their entry into the alveoli. (B) Once they have entered the bronchiole, the conidia must evade the first-line immunity presented by surfactant proteins (SP-A and SP-D), which trap conidia and promote their phagocytosis by macrophages. (C) *Aspergillus* lung infection can progress to invasive systemic mycoses by crossing the alveolar epithelium (adapted from Williams (2000)).

Dermatophytosis

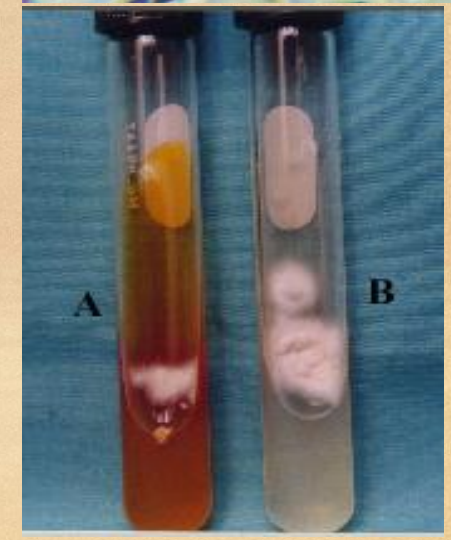
Trycophyton

Mikroskopik:

- Kotak spora (mikrokonidia) btk bulat
- punya hifa bercabang-cabang

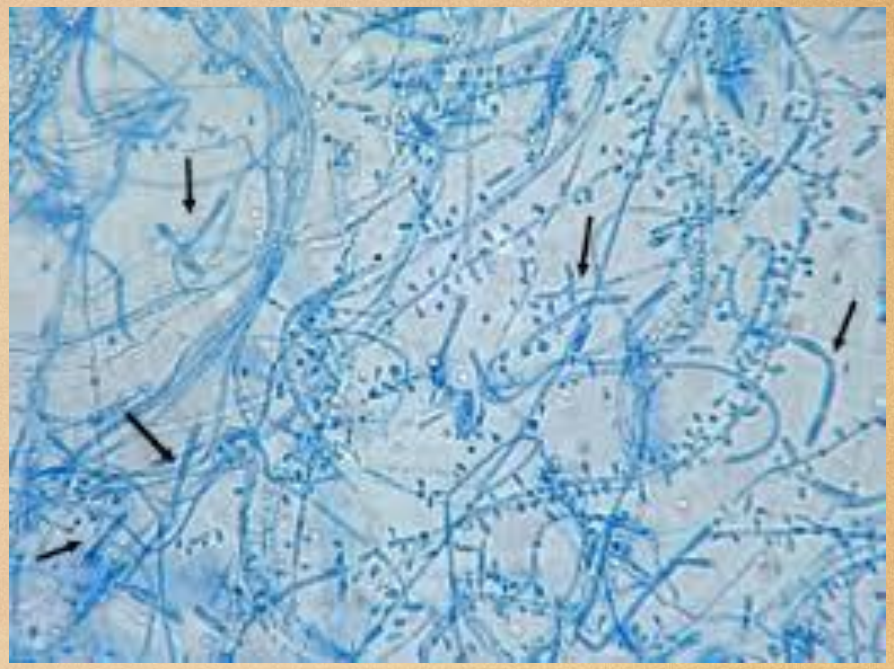
Makroskopik:

- koloni: filamen (kapas
- Warna: putih
- Permukaan: menonjol, kasar

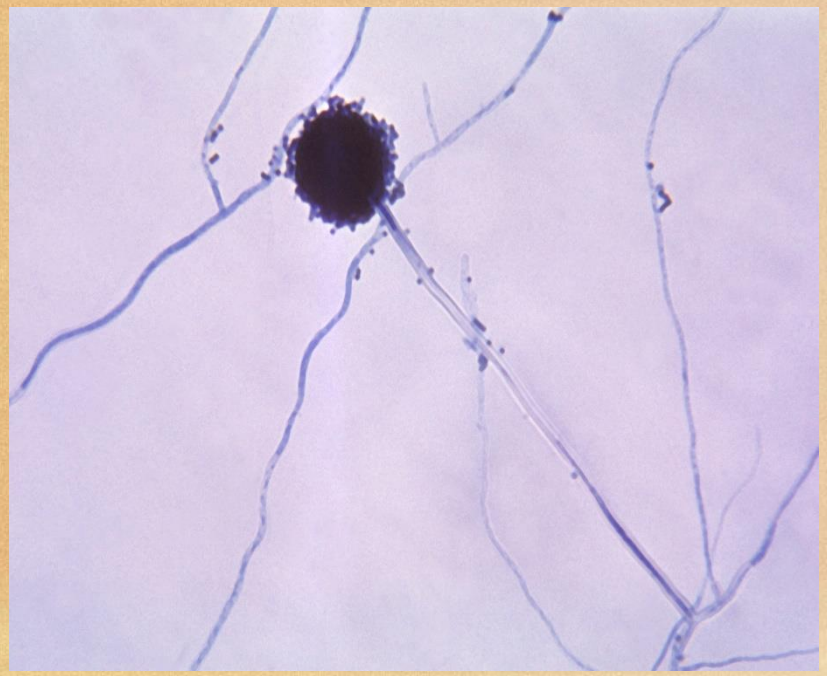


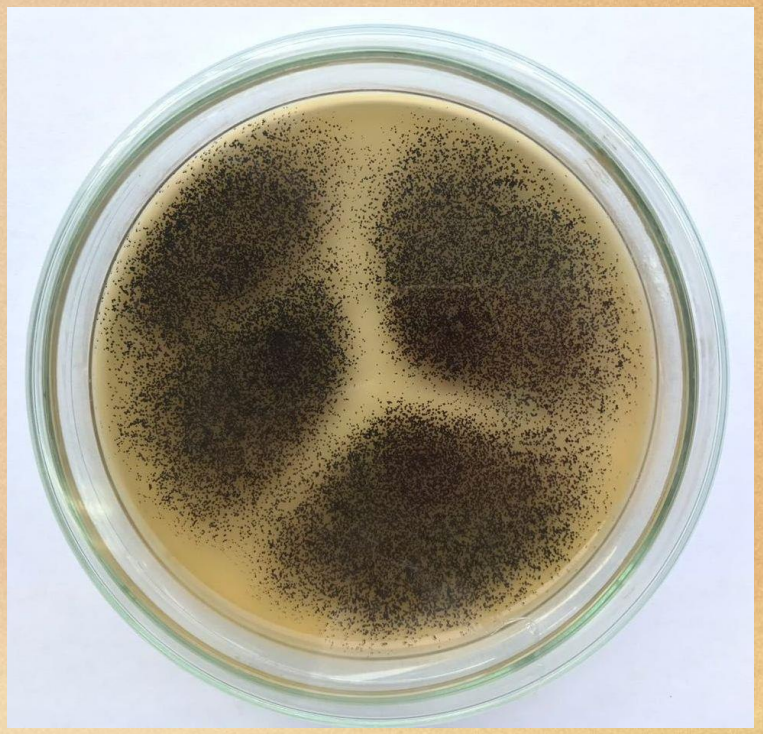
Tugas Praktikan

1. Identifikasi jamur Trycophyton secara mikroskopik dan makroskopik

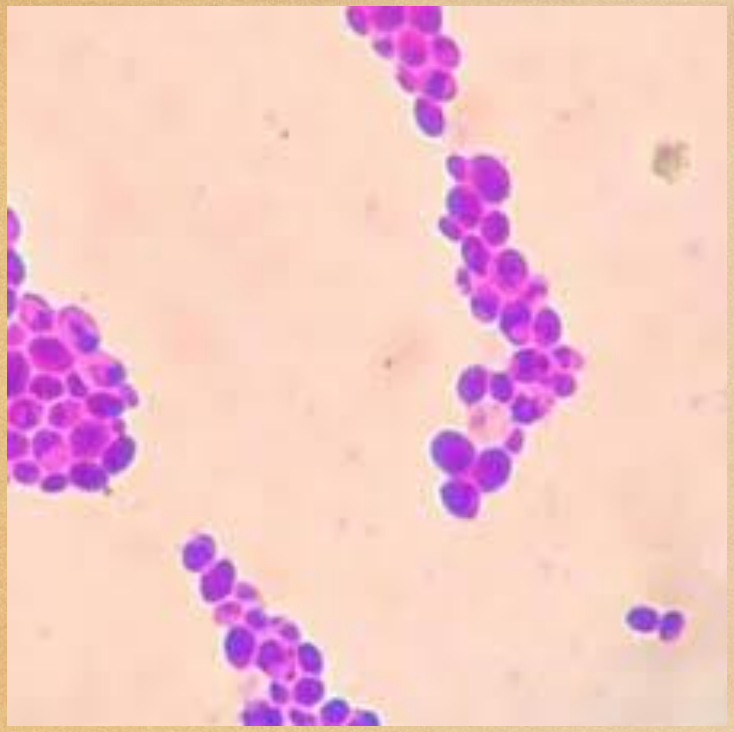


2. Identifikasi jamur Aspergillus secara mikroskopik dan makroskopik





3. Identifikasi jamur Candida secara mikroskopik dan makroskopik



Laporan

ACARA PRAKTIKUM
PEMERIKSAAN JAMUR

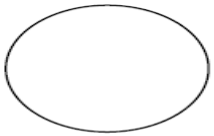
Nama :
No.Mhs :
T.Tangan :

Hasil Pengamatan :

1. Pemeriksaan Mikroskopik

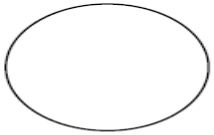
a. Trycophyton

Ket. Gambar :



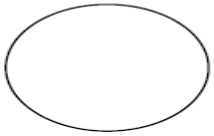
b. Aspergillus

Ket. Gambar :



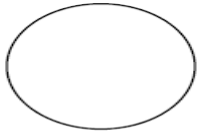
c. Candida

Ket. Gambar :

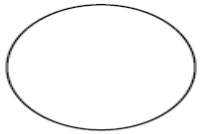


2. Pemeriksaan Makroskopik

Ket. Gambar :



Ket. Gambar :



Ket. Gambar :