

# Struktura a skladba potravin

## praktická cvičení 5.

Magisterský studijní program



# Téma cvičení

- Polarizace – princip metody
- Polarizační vyšetřování rostlinných součástí
- Identifikace neznámých vzorků
- Identifikace modelových vzorků

# Polarizační mikroskopie

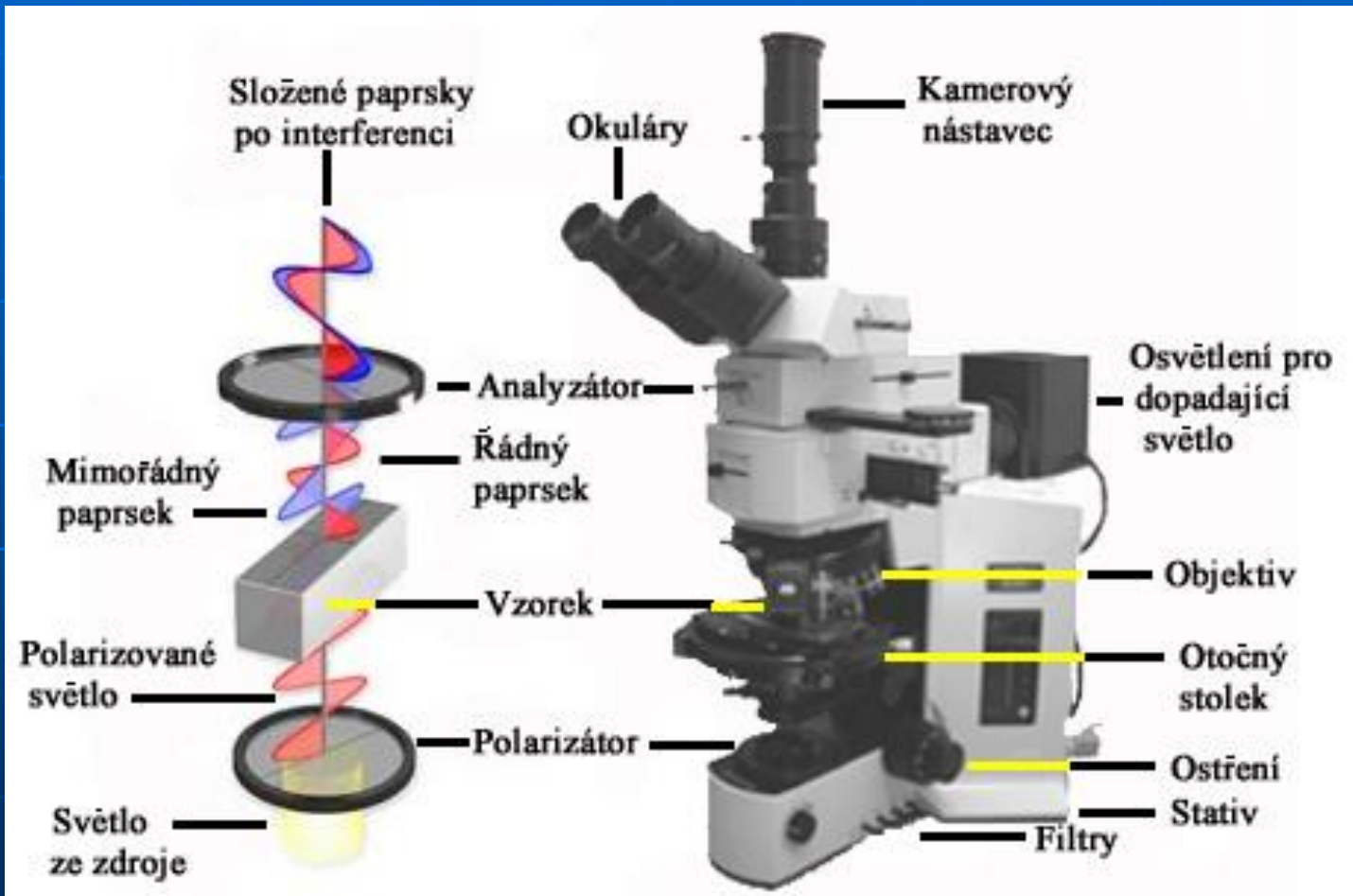
Pro vyšetření specifických materiálů

Mikroskopické systémy pro pozorování  
různých histologických anizotropních  
objektů

Využití polarizovaného světla

- mineralogie
- geologie
- potravinové mikroskopie

# Princip



# Vyšetřované suroviny

- Izotropní – neotáčejí rovinu světla
  - plyny, kapaliny, sklo, krystaly kubické soustavy
  
- Anizotropní – otáčejí rovinu světla
  - schopnost rozdelit paprsek světla

# Dvojlomnost struktur

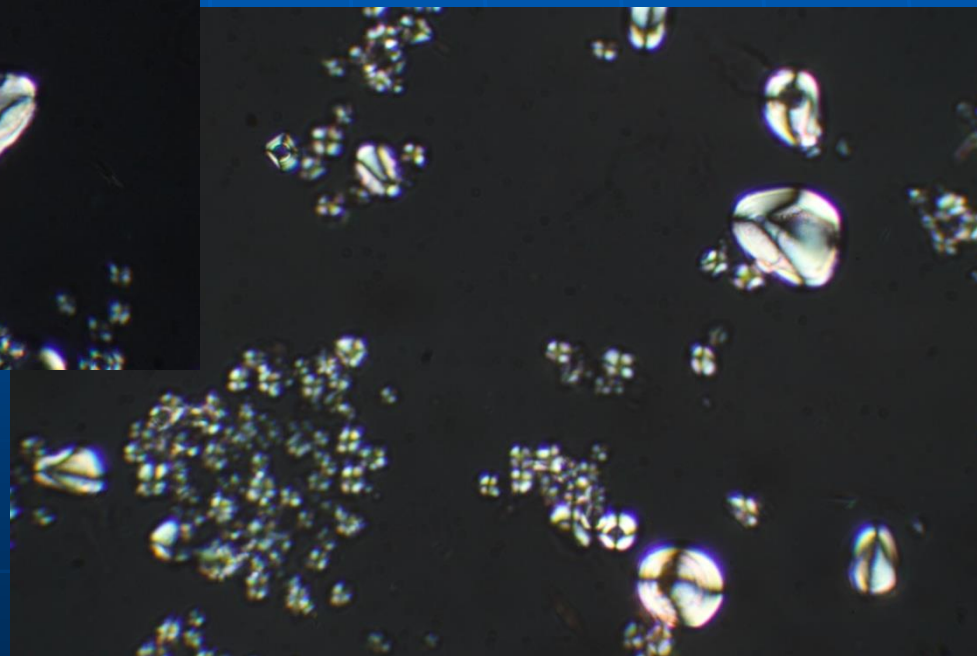
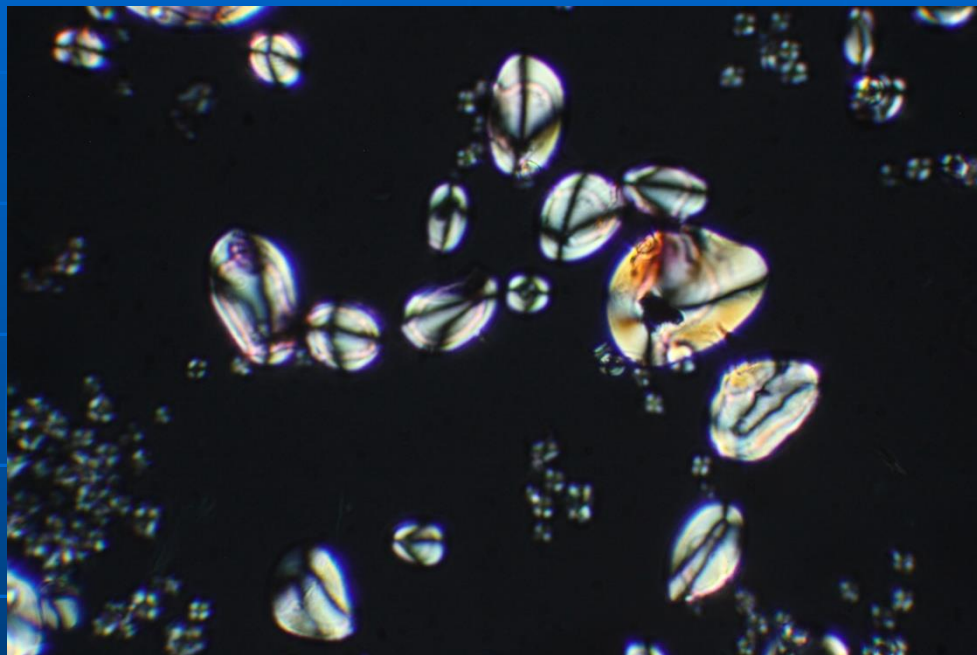
- Světlo lámáno do dvou směrů
  - Řádný paprsek
  - Mimořádný paprsek
- K dvojlomu může docházet různým způsobem
  - Dvojlomnost dána krystalickou strukturou
  - Dvojlom způsobený napětím
  - Tvarový dvojlom

# Určení dvojlomných struktur

## ■ Krabička č. II

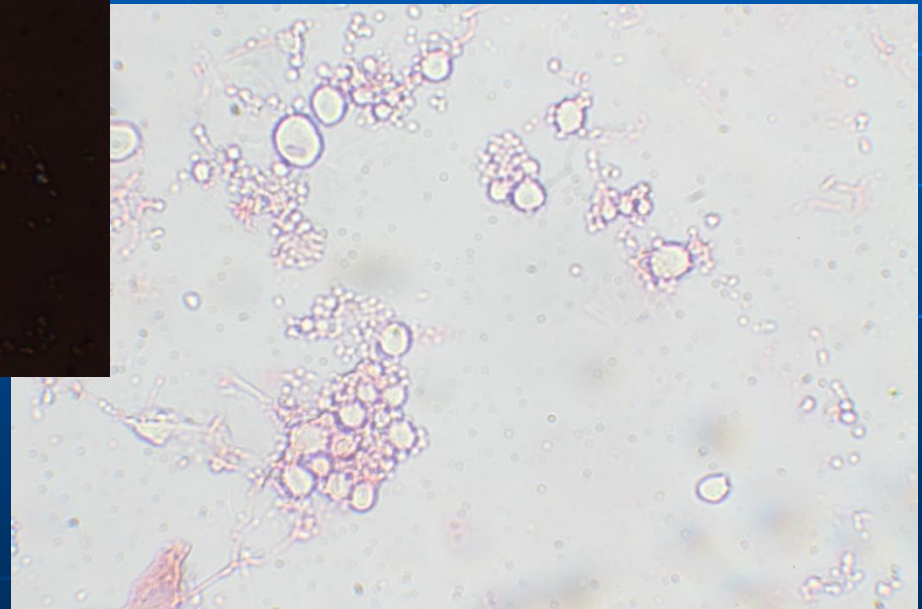
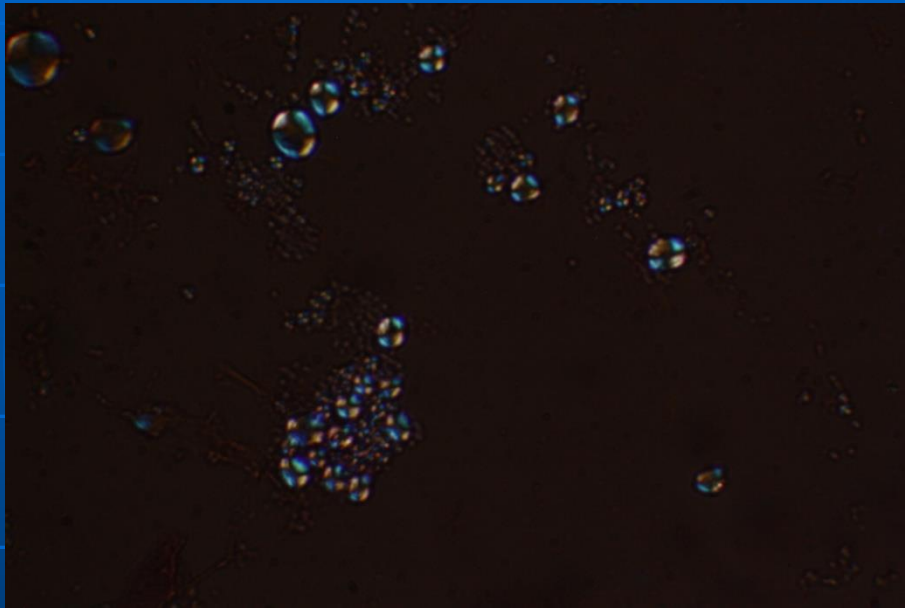
- Cíl: 1 srovnání mikroskopických metod  
2 určení identifikačních znaků

# 215/05 – bramborový škrob

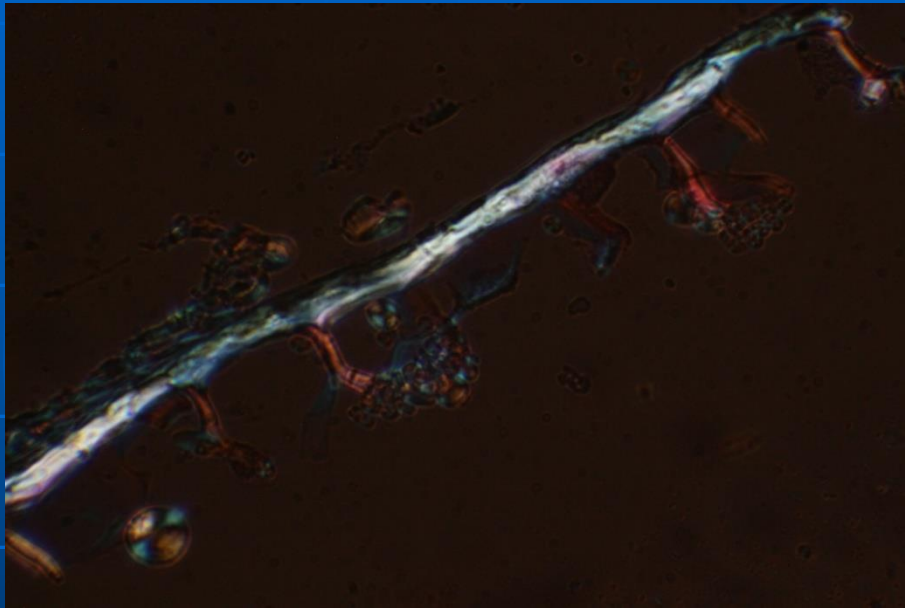




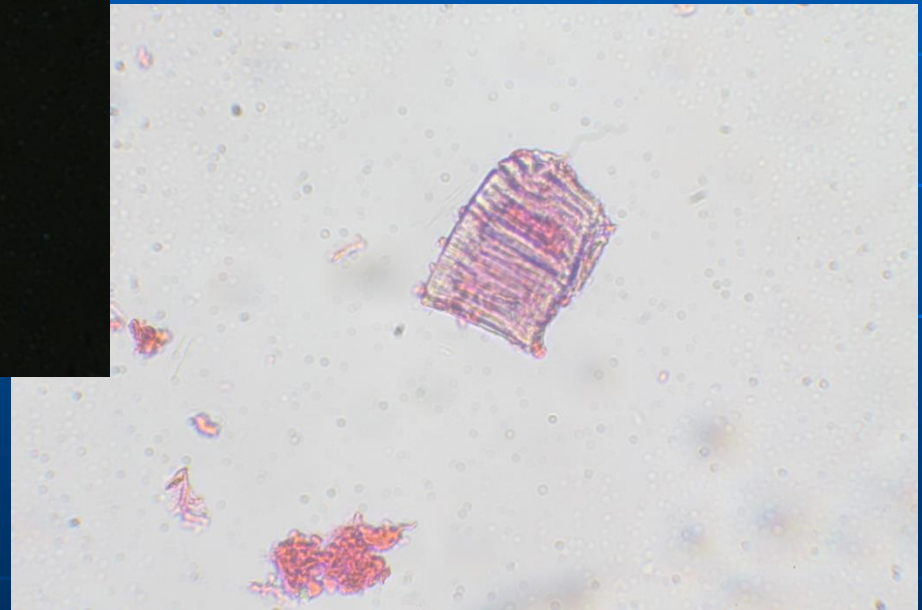
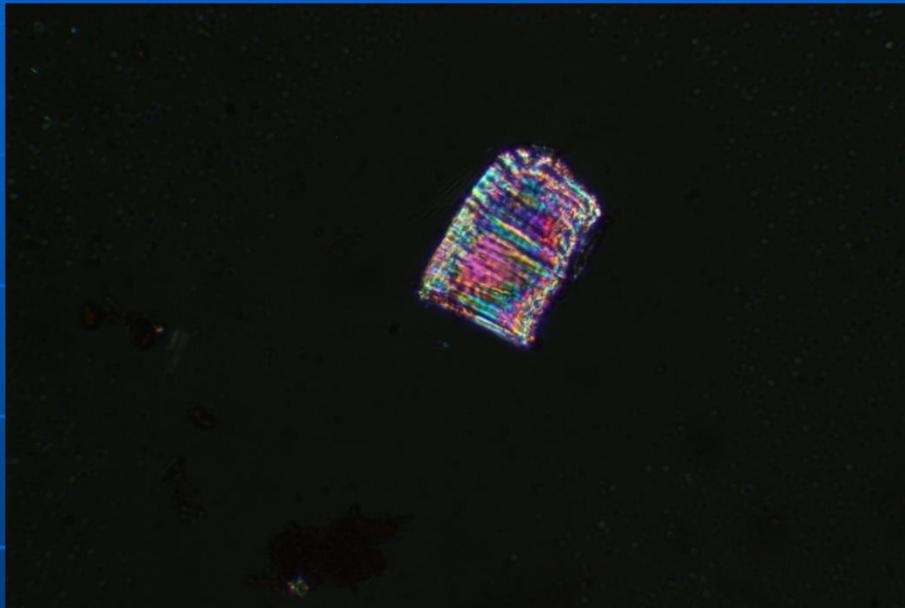
# 242/05 – žitná mouka



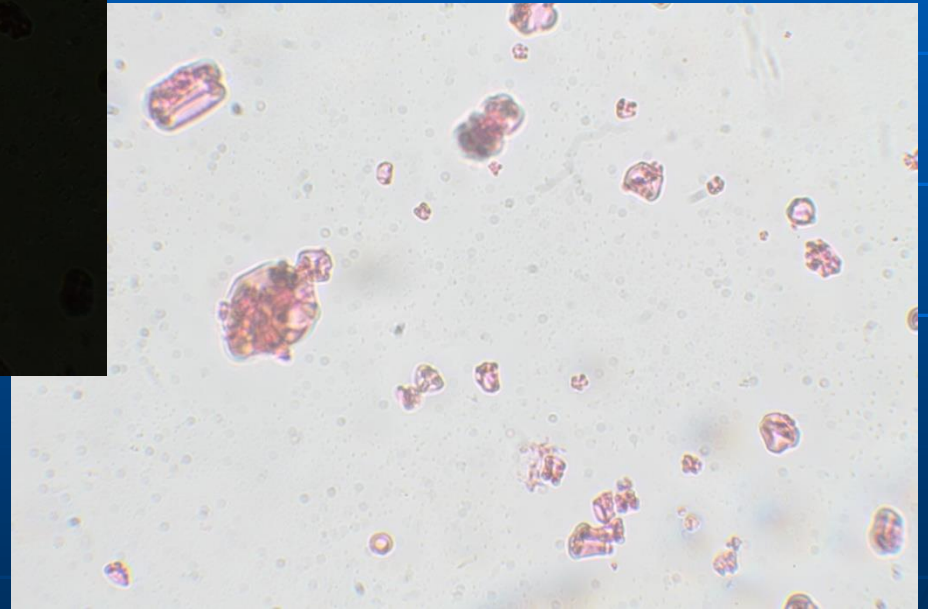
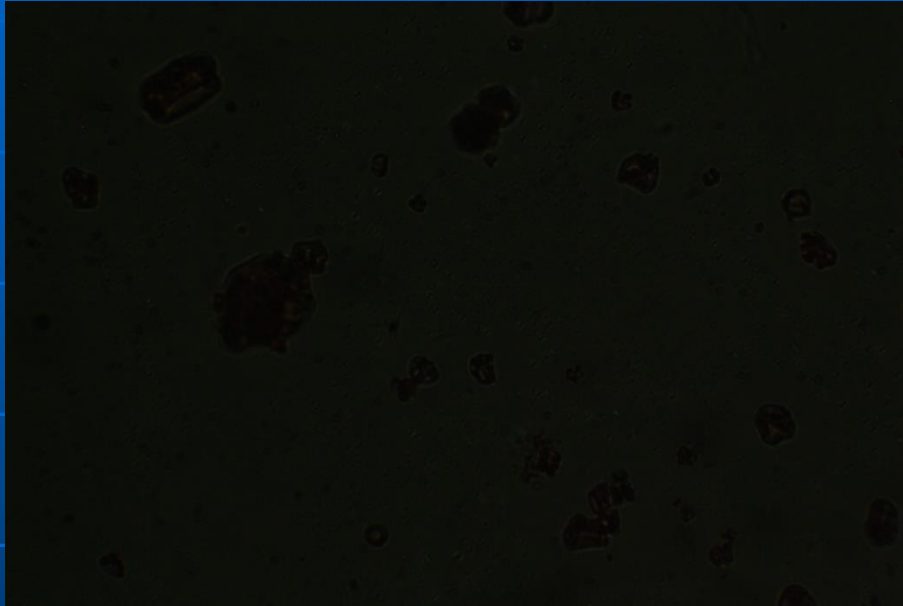
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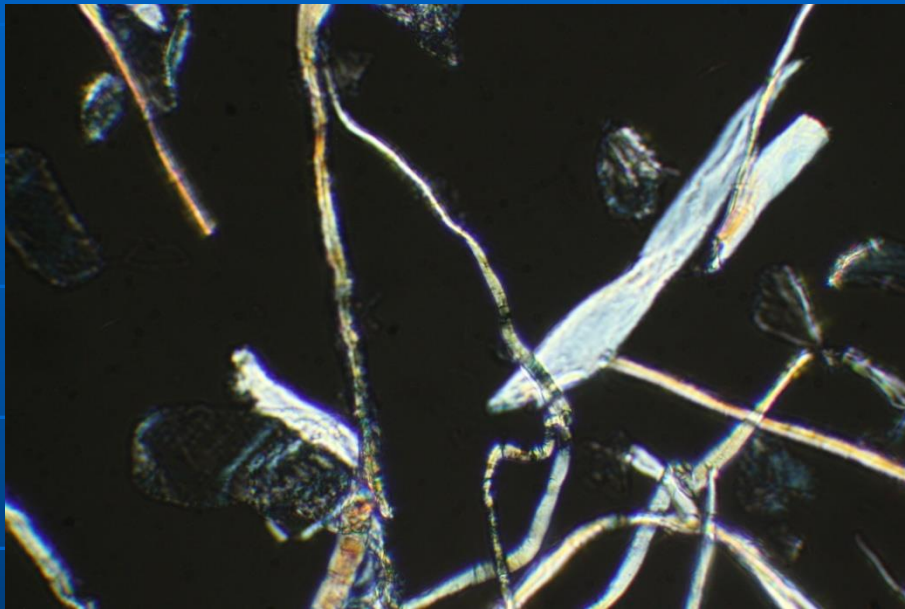
# 178/99 – sojová mouka



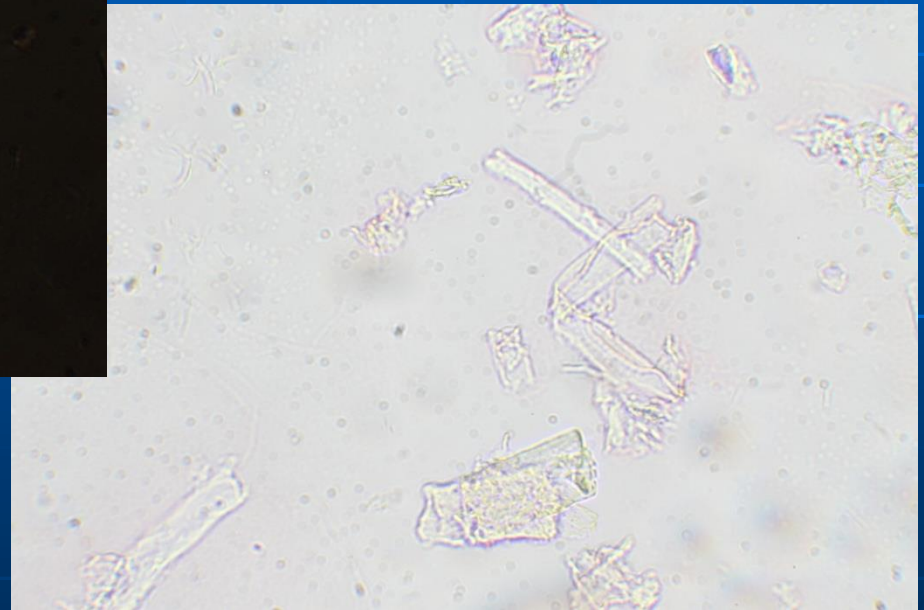
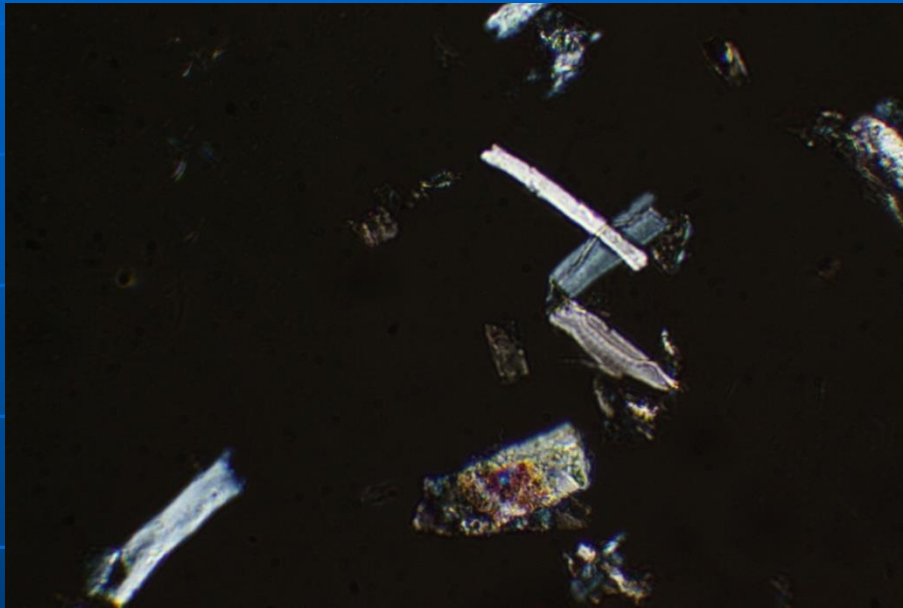
# 16/00 sojová bílkovina



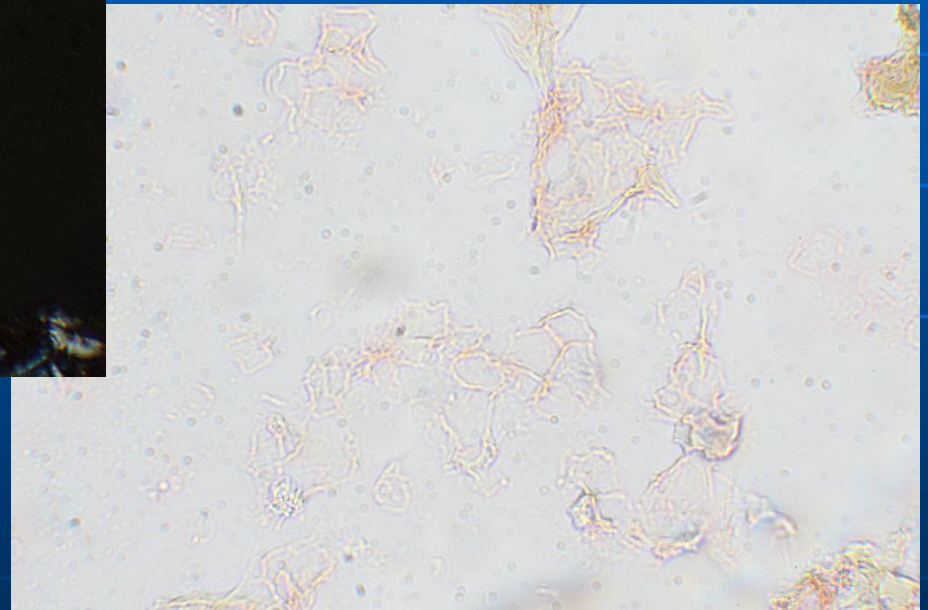
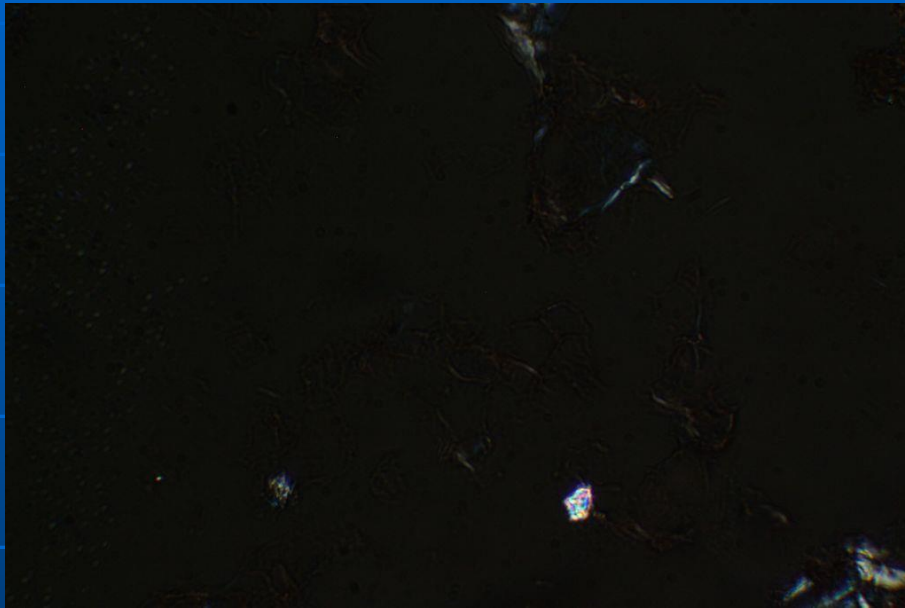
# 199/05 - vláknina



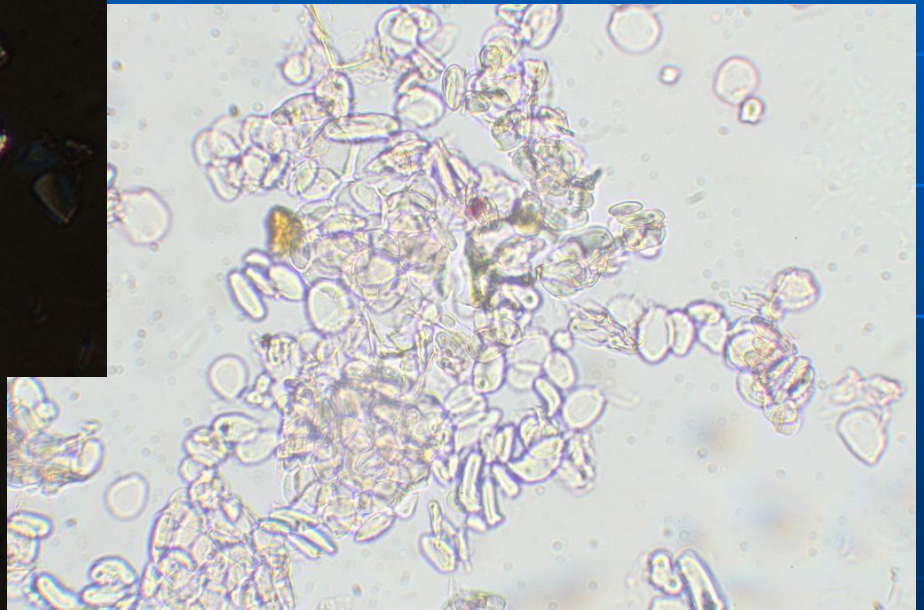
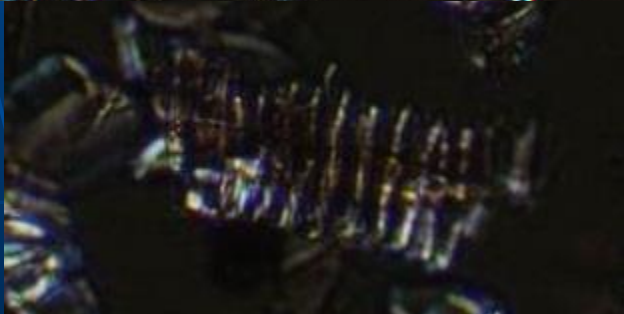
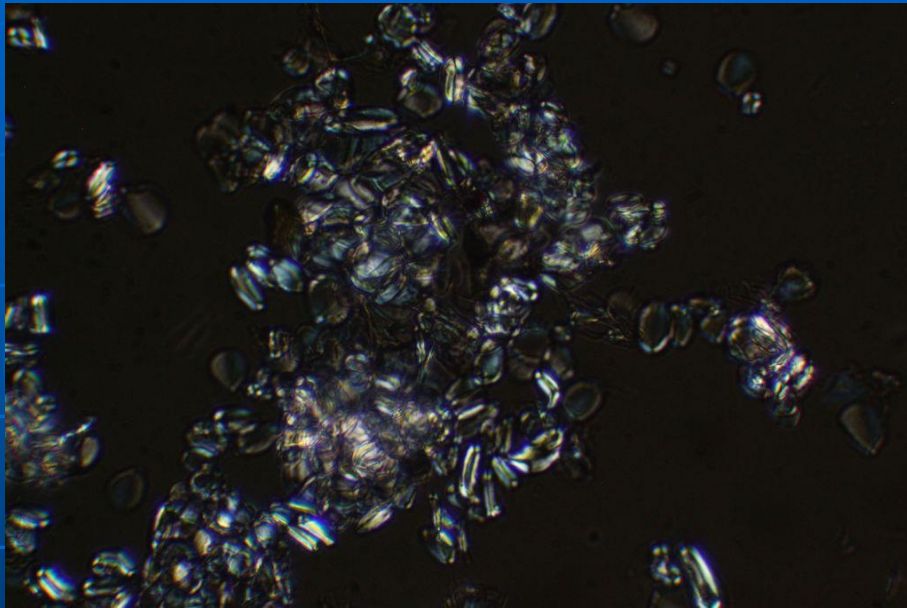
# 201/05 - vláknina



# 191/05 - karagenan

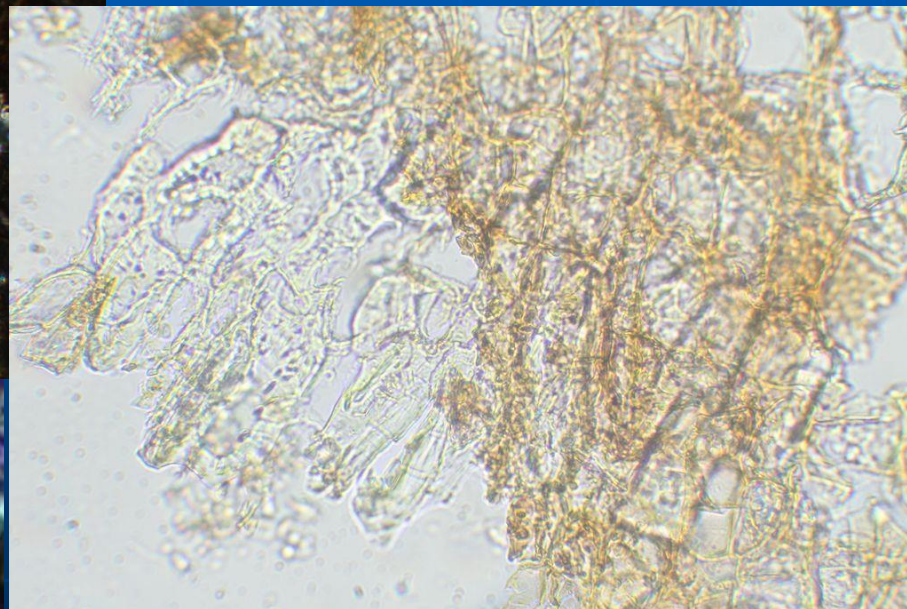
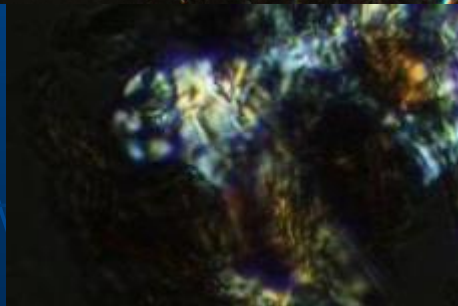
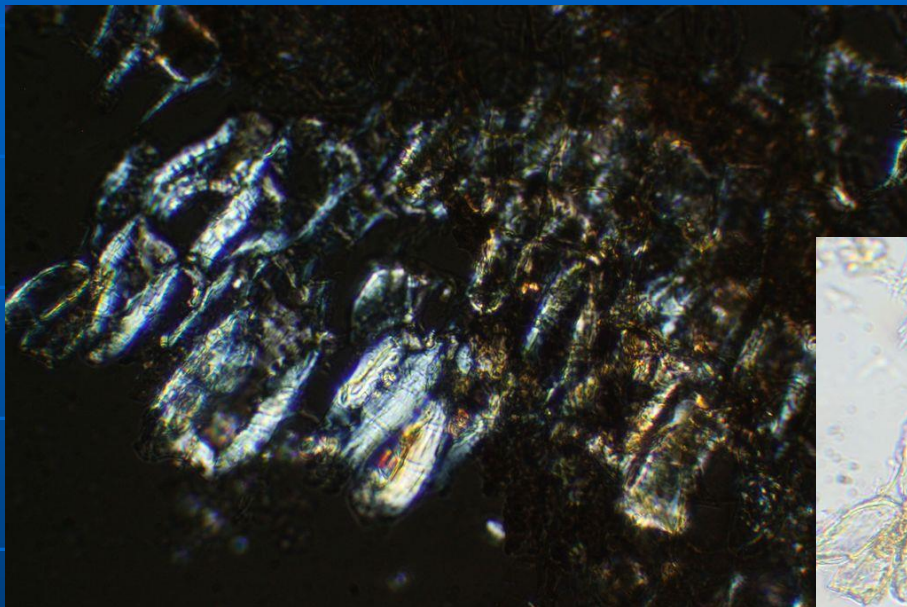
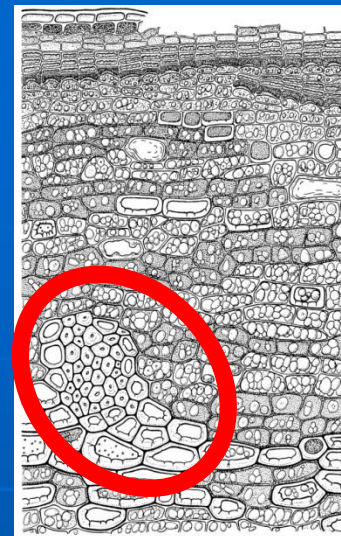


# 214/05 - zázvor

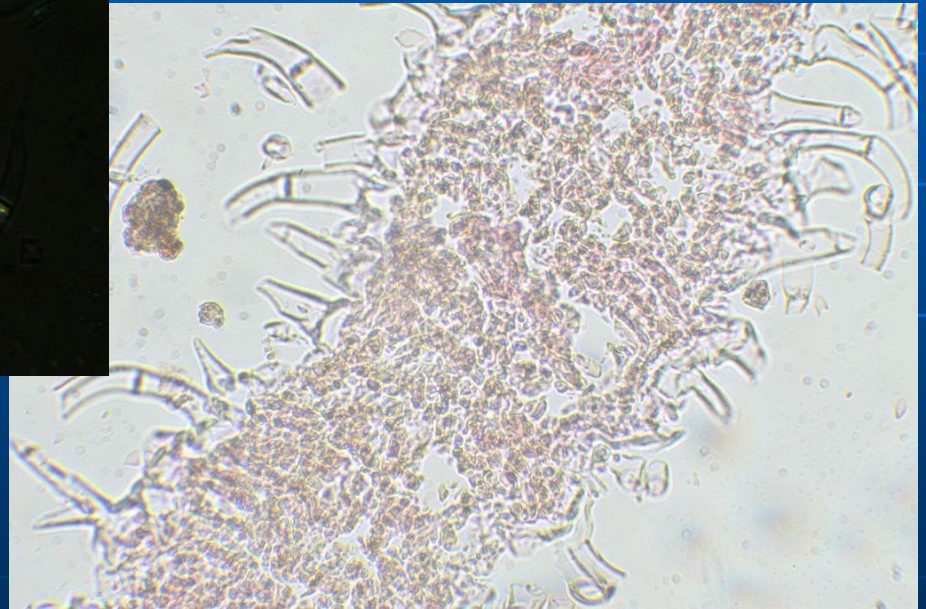
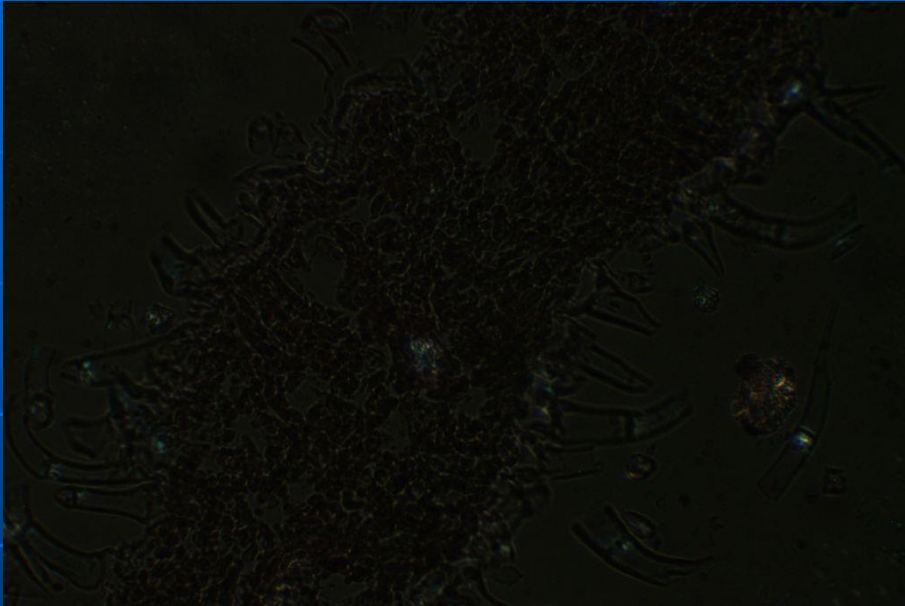
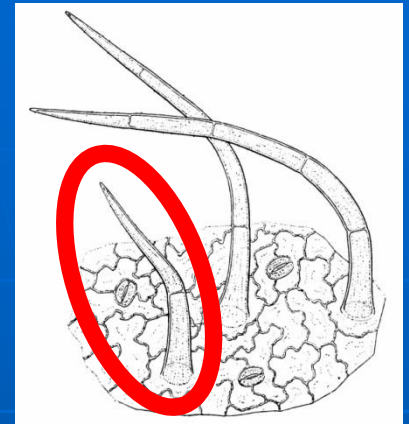




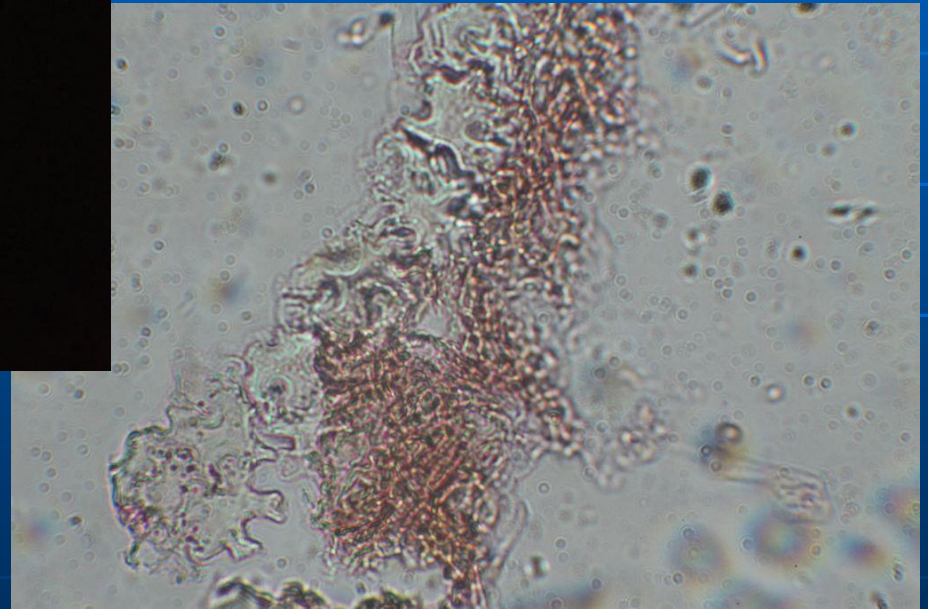
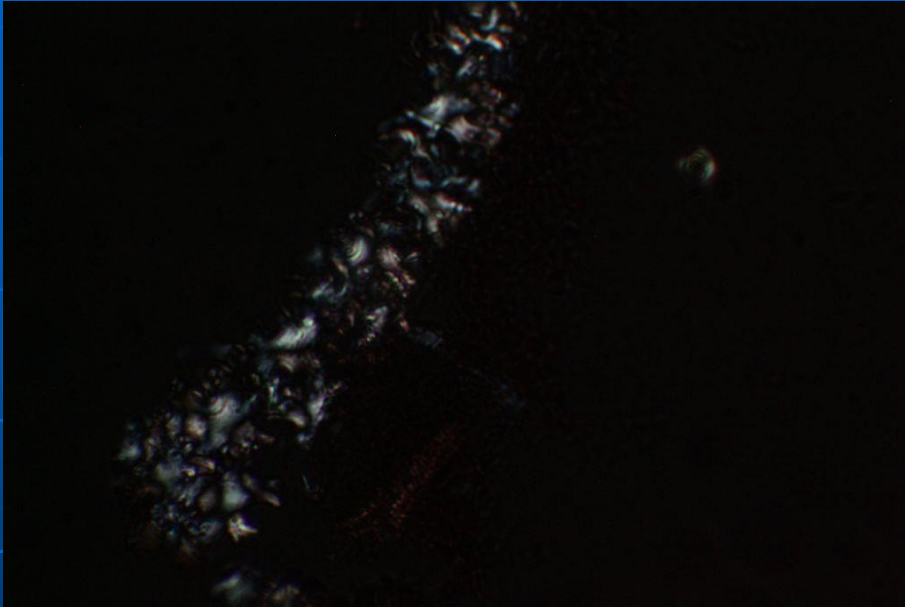
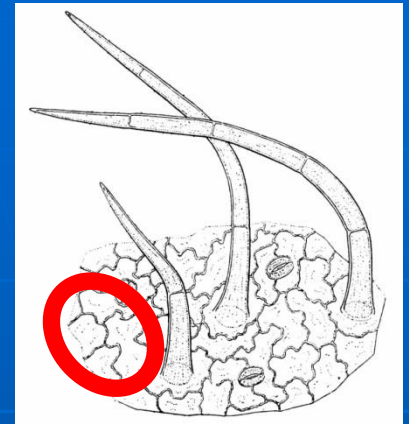
# 246/05 - skořice



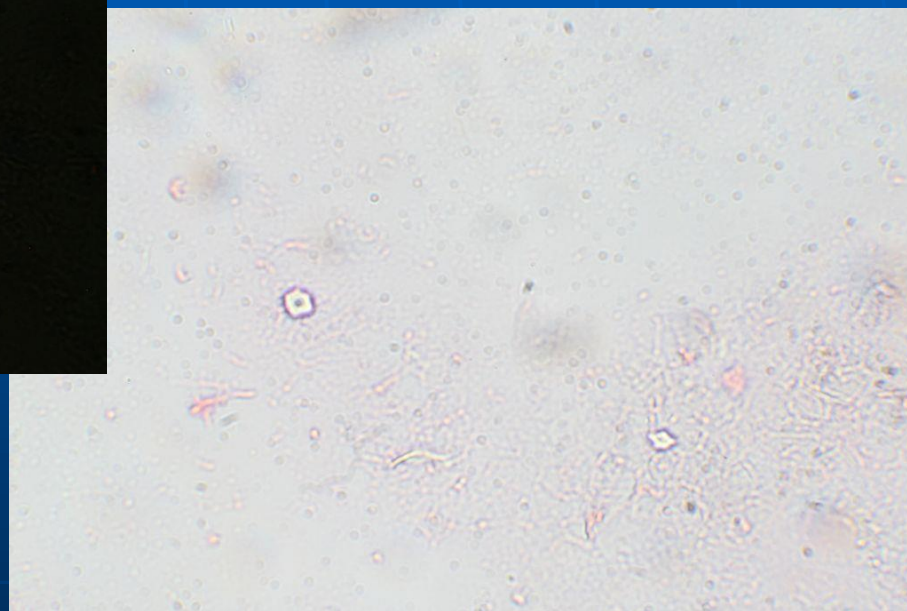
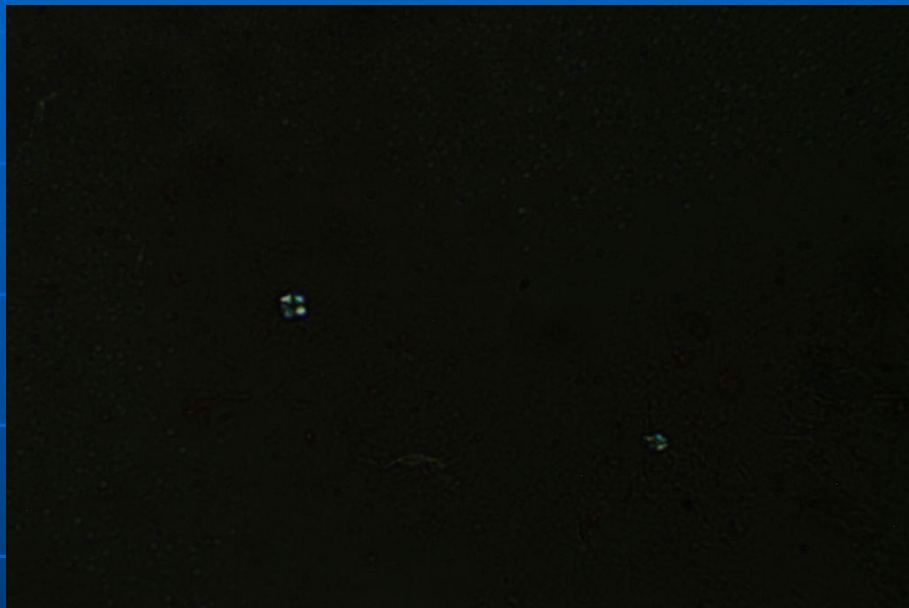
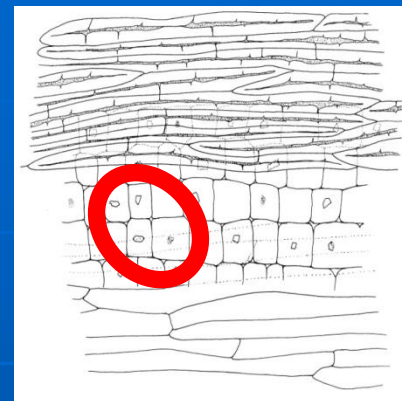
# 109/95 - majorán



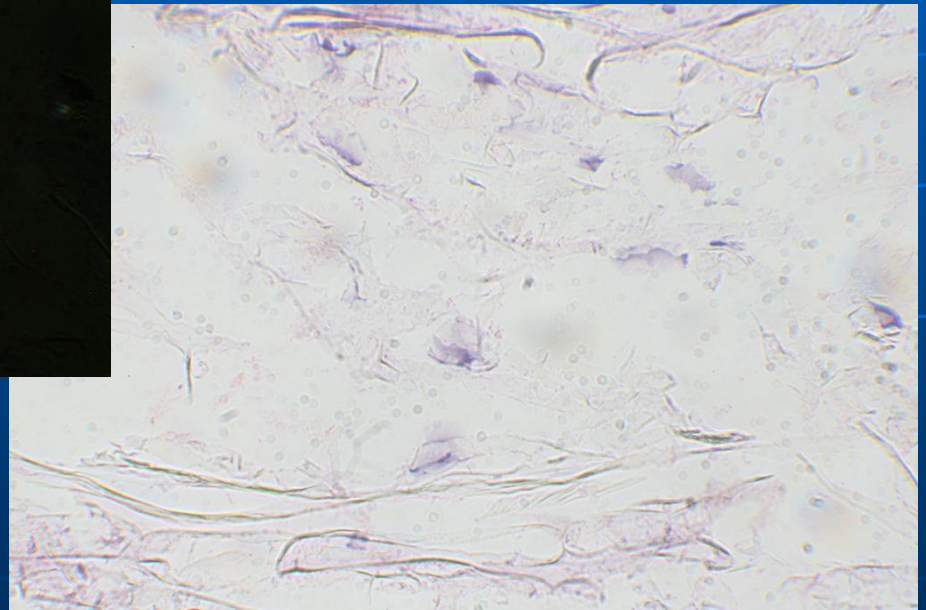
# 109/95 - majorán



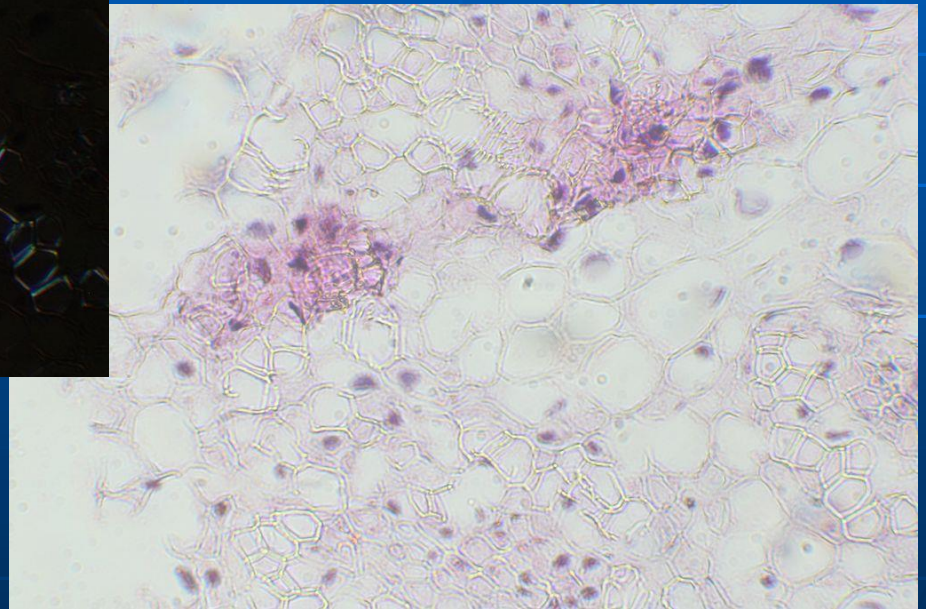
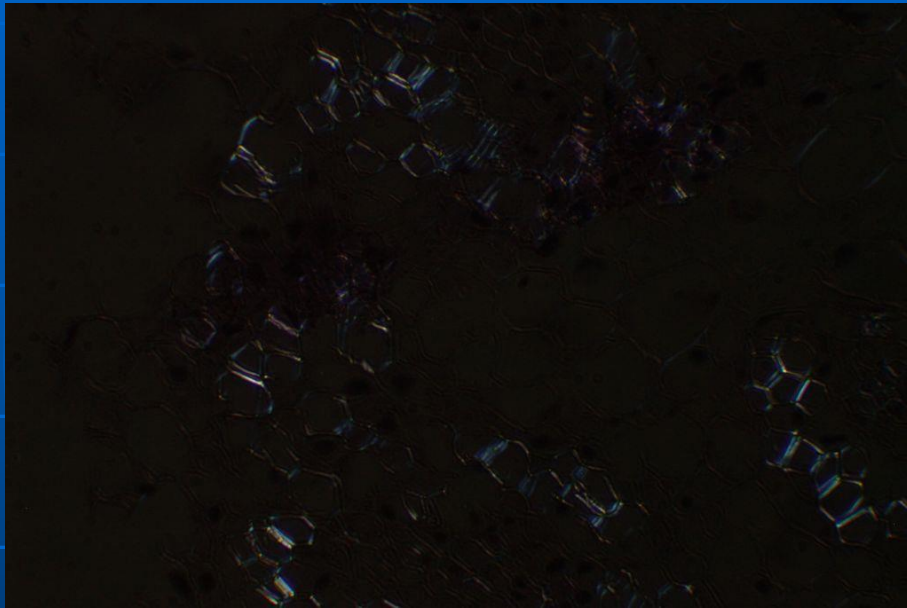
# 208/05 - česnek



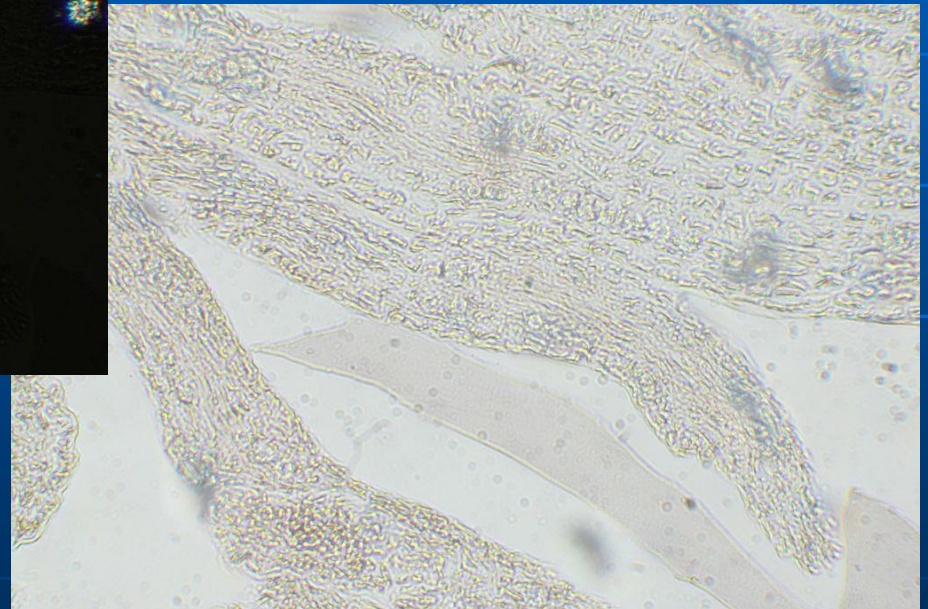
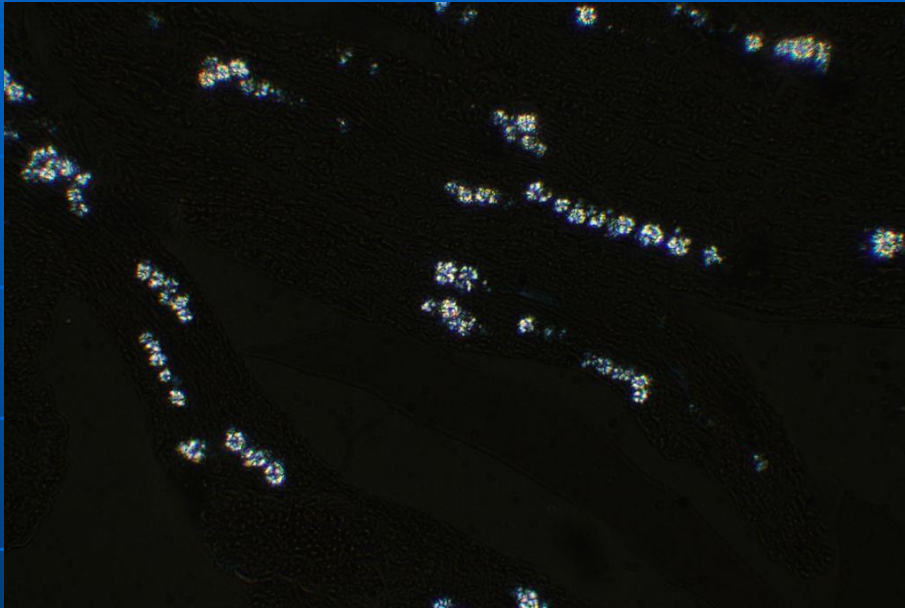
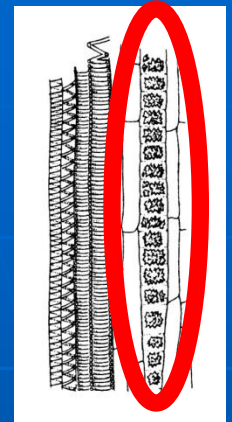
# 64/99 - cibule



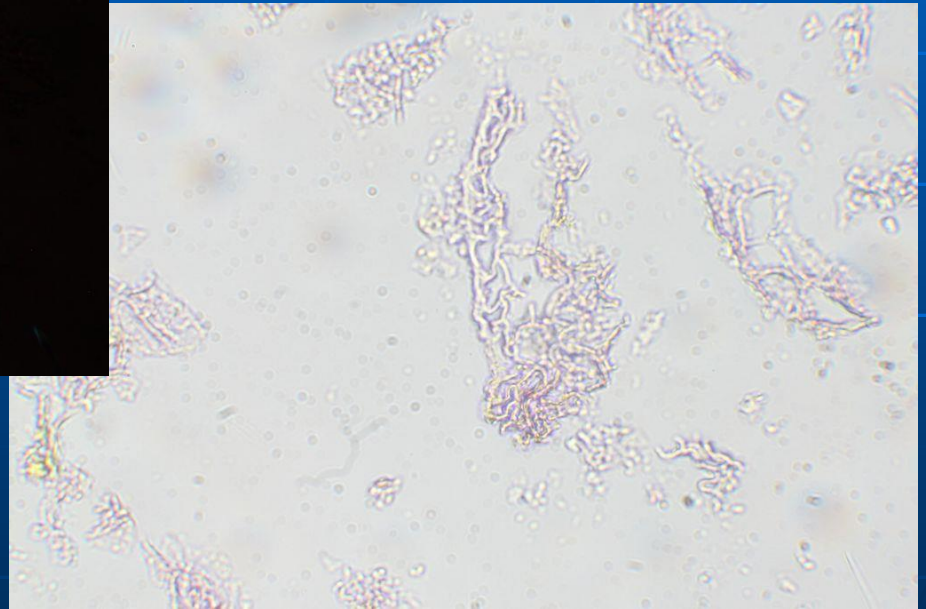
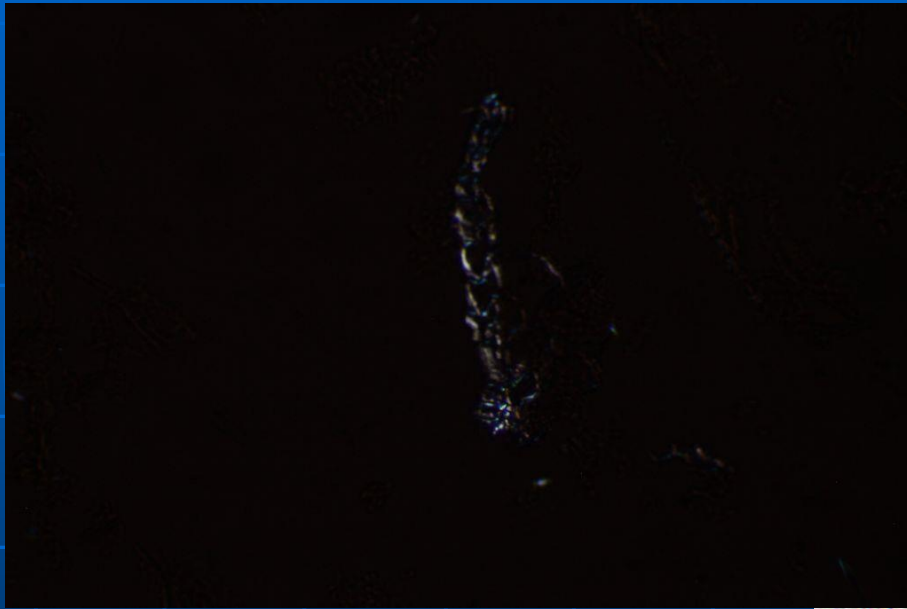
# 64/99 - cibule



# 37/00 – hřebíček drcený

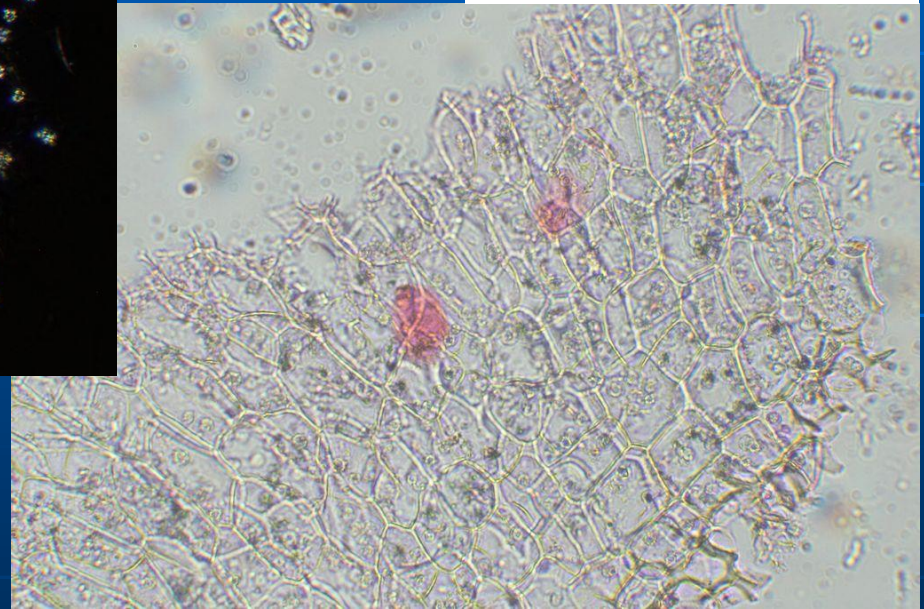
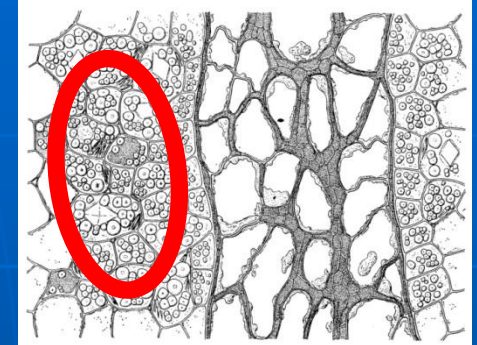
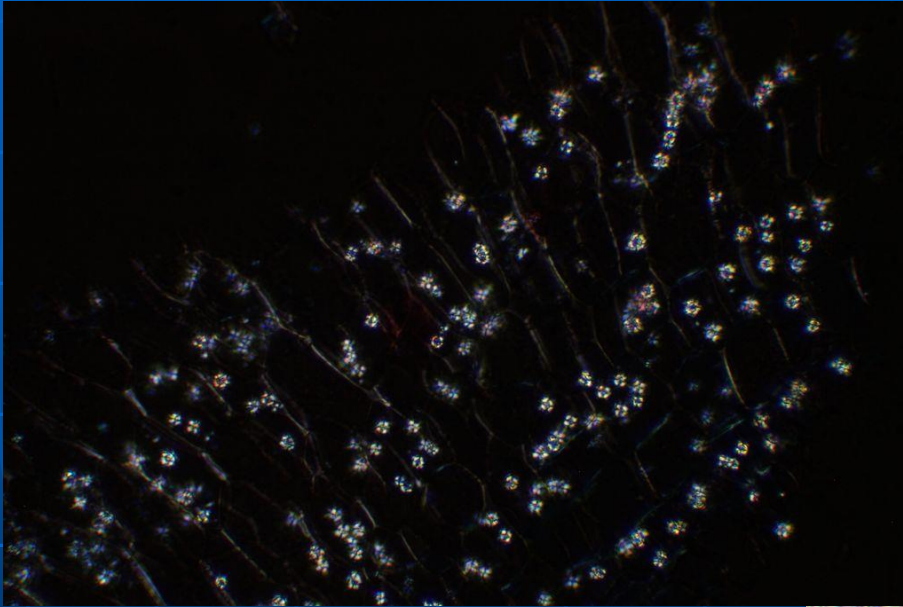


# 138//95 – muškátový květ

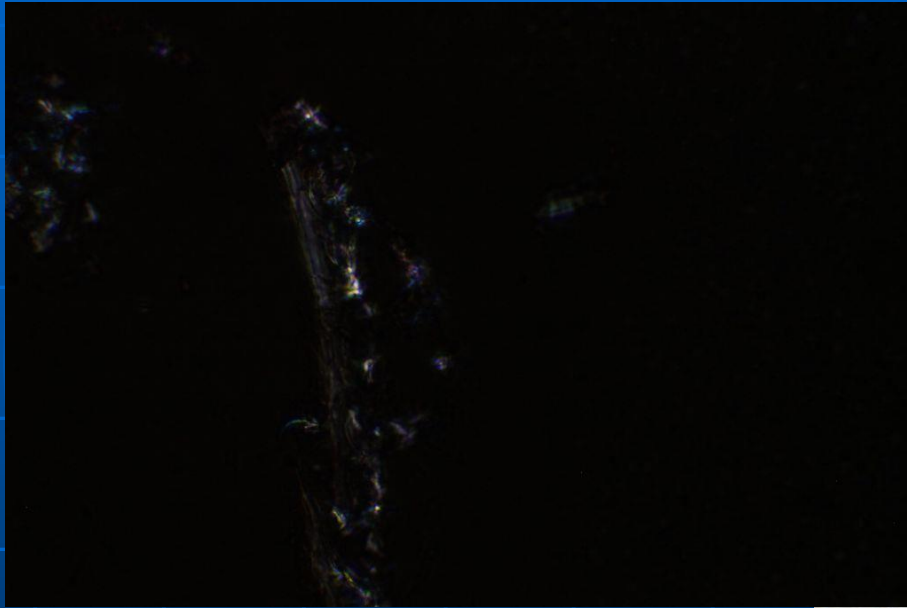




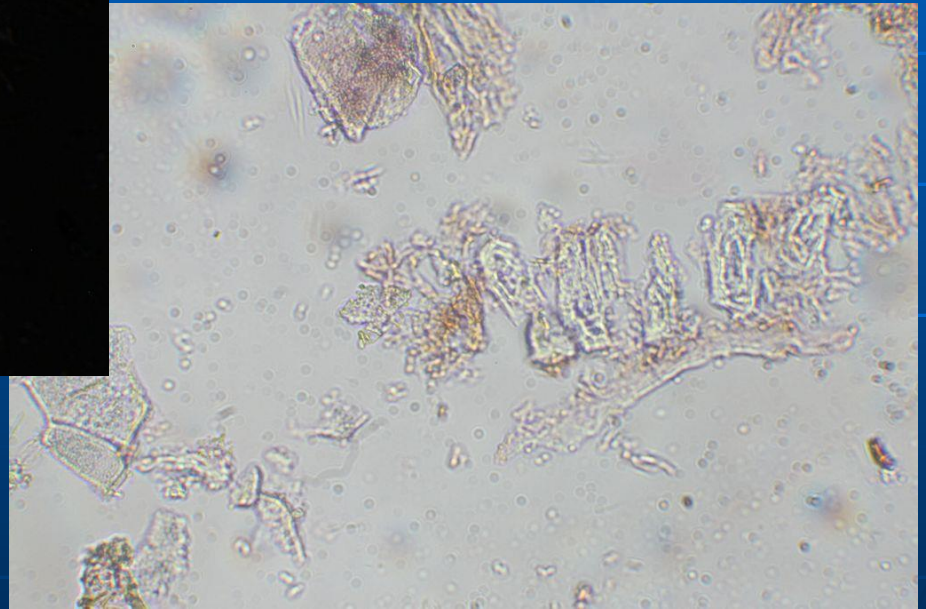
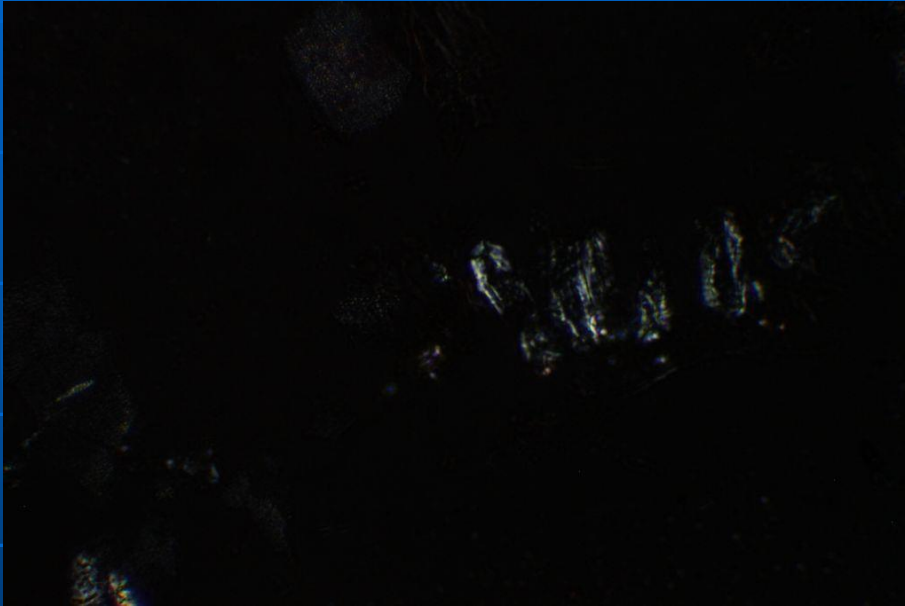
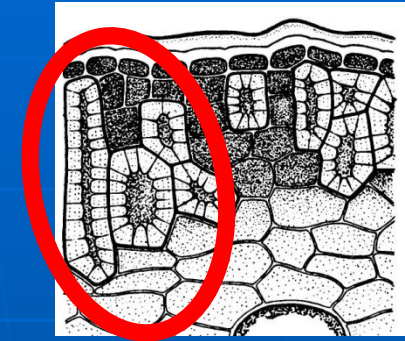
# 244/05 – muškátový oříšek



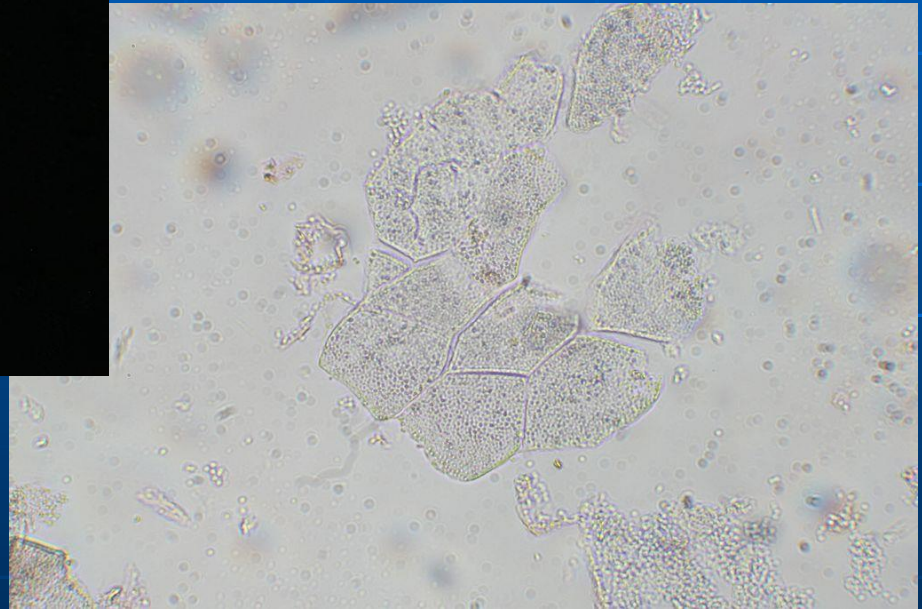
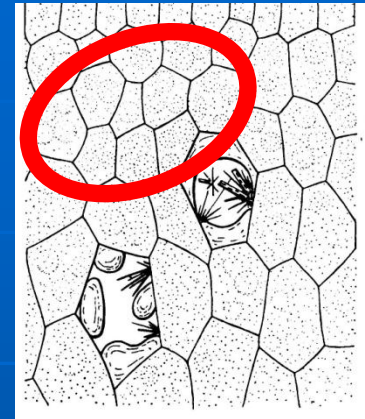
# 244/05 – muškátový ořech



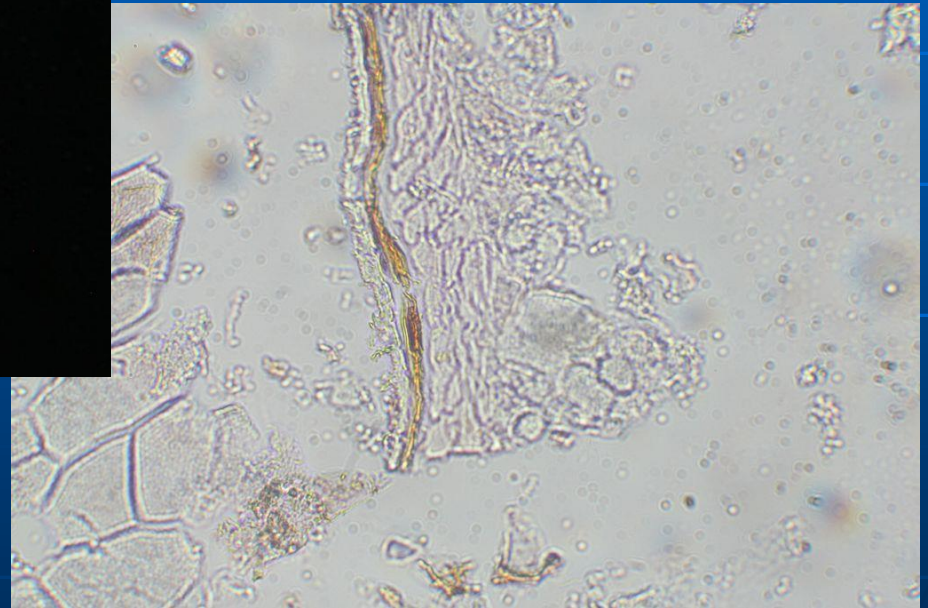
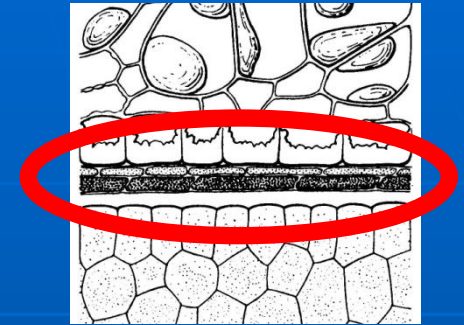
# 136/95 - pepř



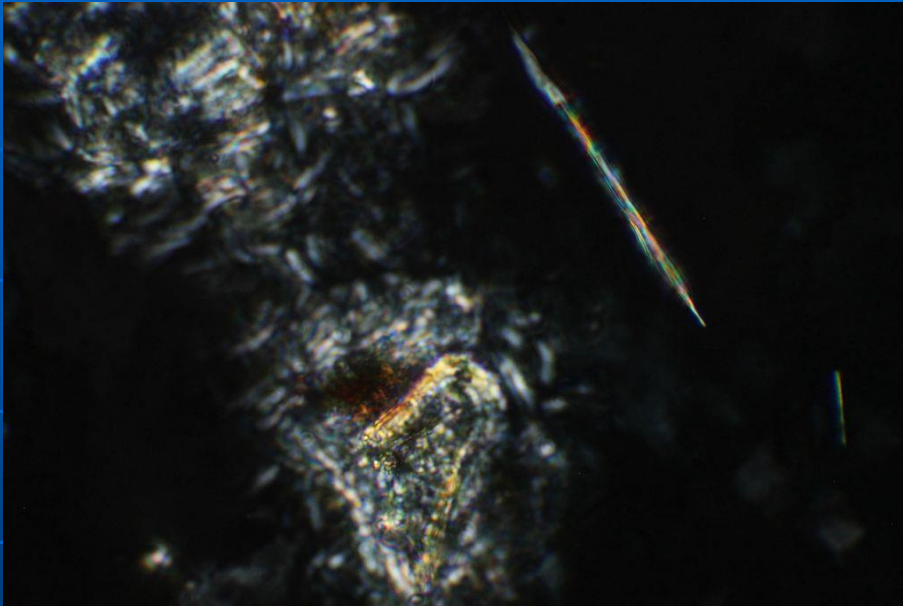
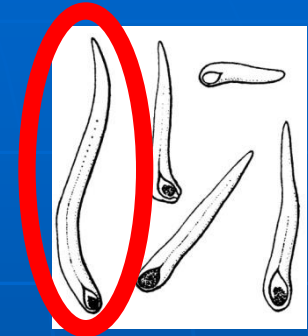
# 136/95 - pepř



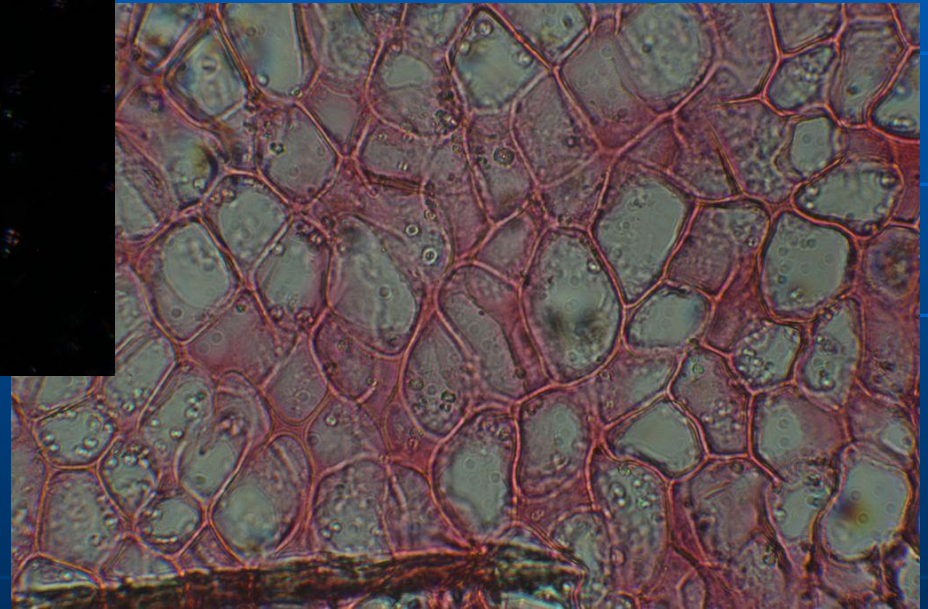
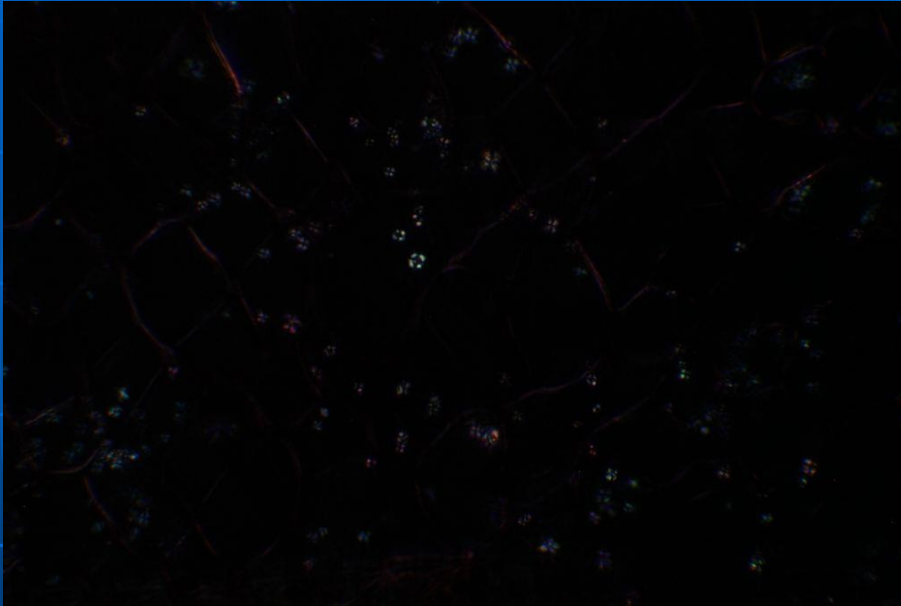
# 136/95 - pepř

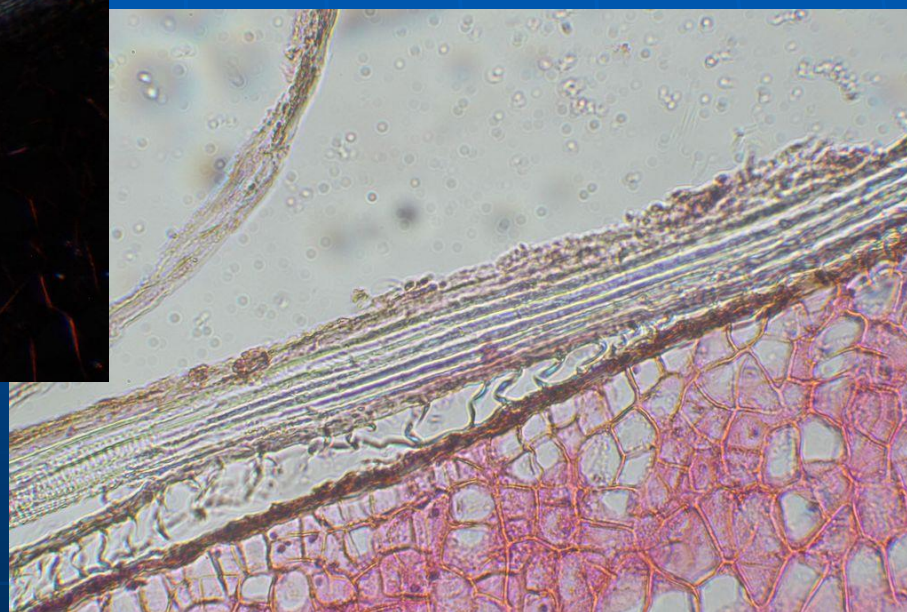
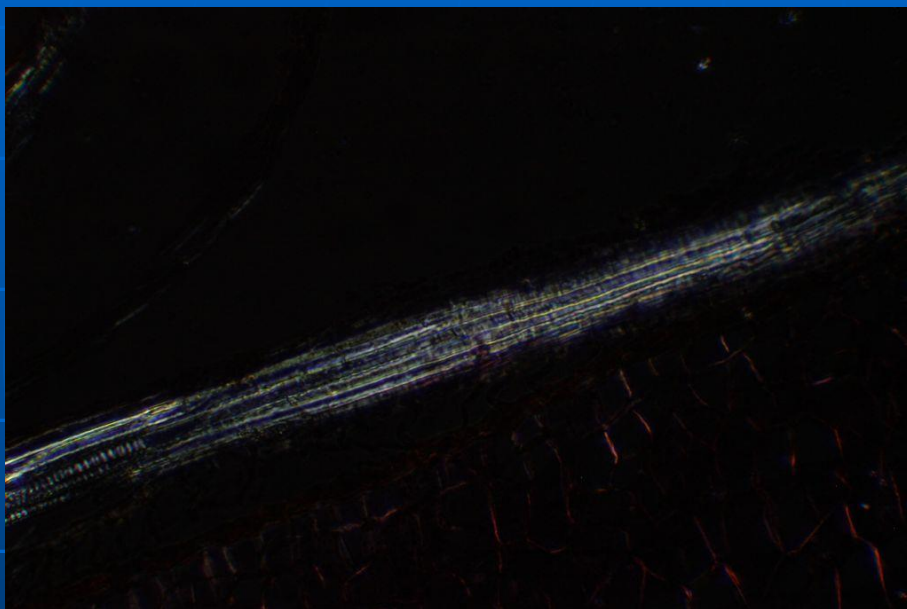


# 100/95 – nové kořeni, drcené



# 210/05 – kmín celý







# Identifikace neznámých vzorků

- Krabička č. II.
- NV 13 – 28
  - Použít polarizaci pro vyhledání struktur
  - Světelnou mikroskopii pro ověření nálezu

# Identifikace modelových vzorků

- Krabička č. III.
- MV 29 – 44
  - Použít polarizaci pro vyhledání struktur
  - Světelnou mikroskopii pro ověření nálezu

# Děkuji za pozornost

