

# Mikrobiologi Peternakan

(minggu ke-2)

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## MIKROBIOLOGI



Bahasa Yunani  
Mikros: kecil  
Bios: hidup  
Logos: ilmu



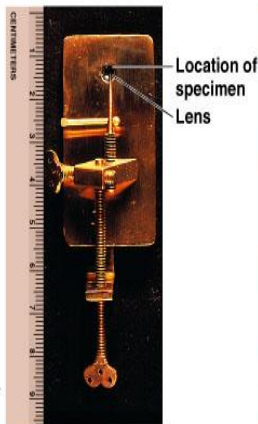
Ilmu yang mempelajari  
organisme mikroskopis

## Why is microbiology important?

- **Disease.** Since discovery of infectious microbes.
- **Agriculture.** Microbes vital in processing materials in soil, e.g. nitrogen, sulfur, etc.
- **Food and drink.** Microbial fermentations responsible for all alcoholic beverages, breads, pickles, cheeses, etc.
- **Chemical products.** Microbes have incredible variety of metabolic tricks; can be used to produce acetone and other commercial solvents, pharmaceuticals, antibiotics, preservatives, etc.
- **Basic research.** Microbes grow fast, produce enormous # of offspring.
- **Biotechnology.** E.g. genetic engineering, ability to move genes freely from one organism to another. Bacteria are natural hosts for such activities.



(a) Van Leeuwenhoek using his microscope.

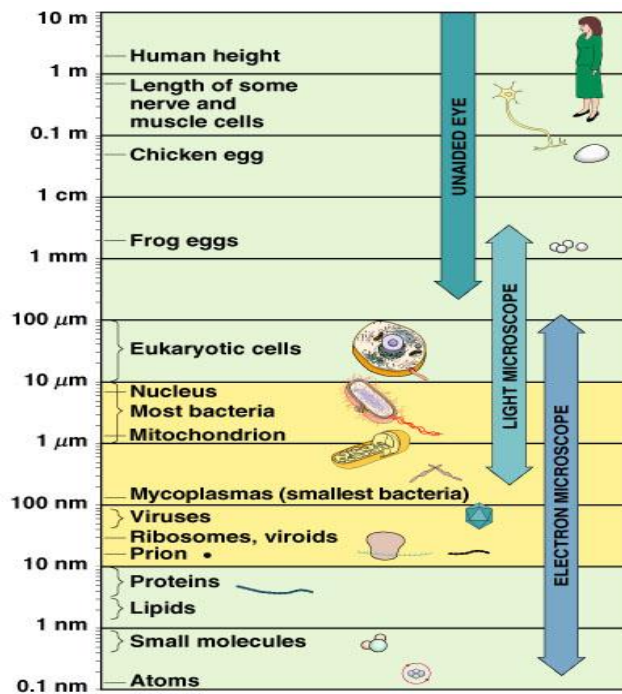
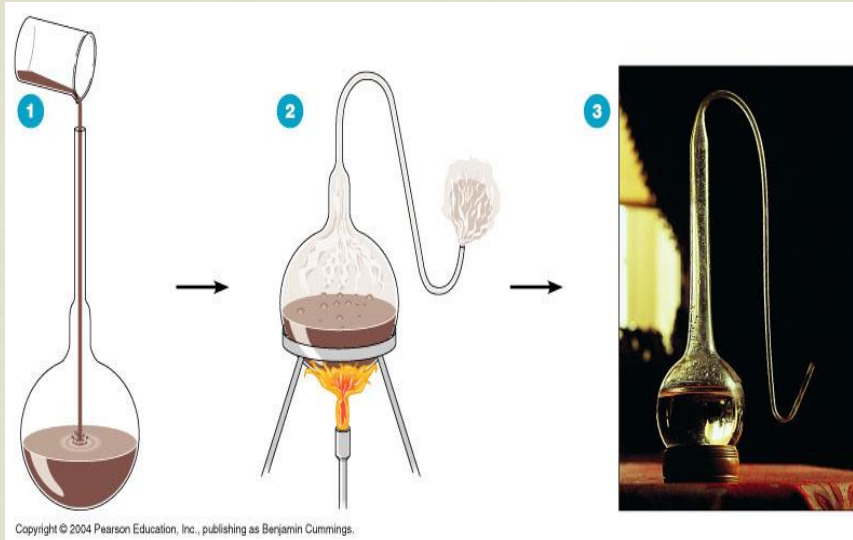


(b) Microscope replica



(c) Drawings of bacteria

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## SEJARAH MIKROBIOLOGI

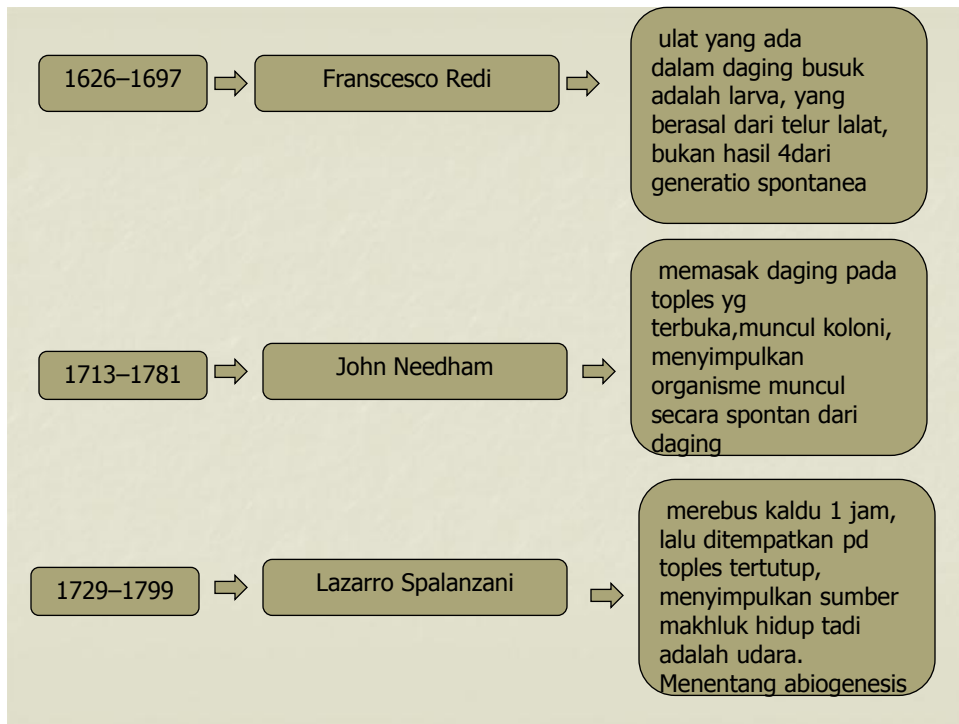
(1632–1723)

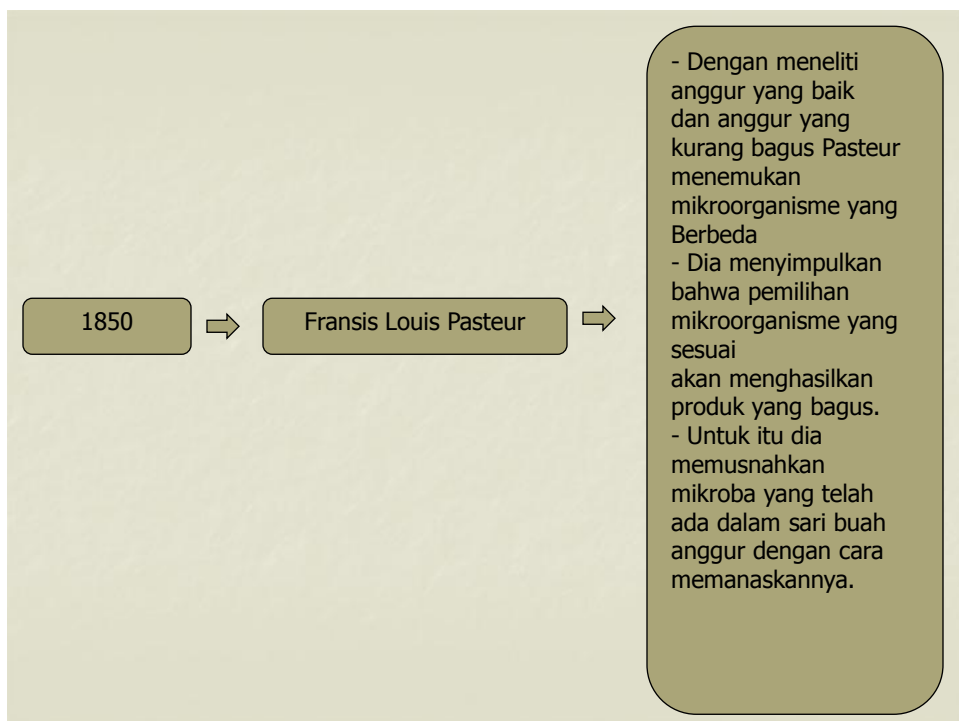
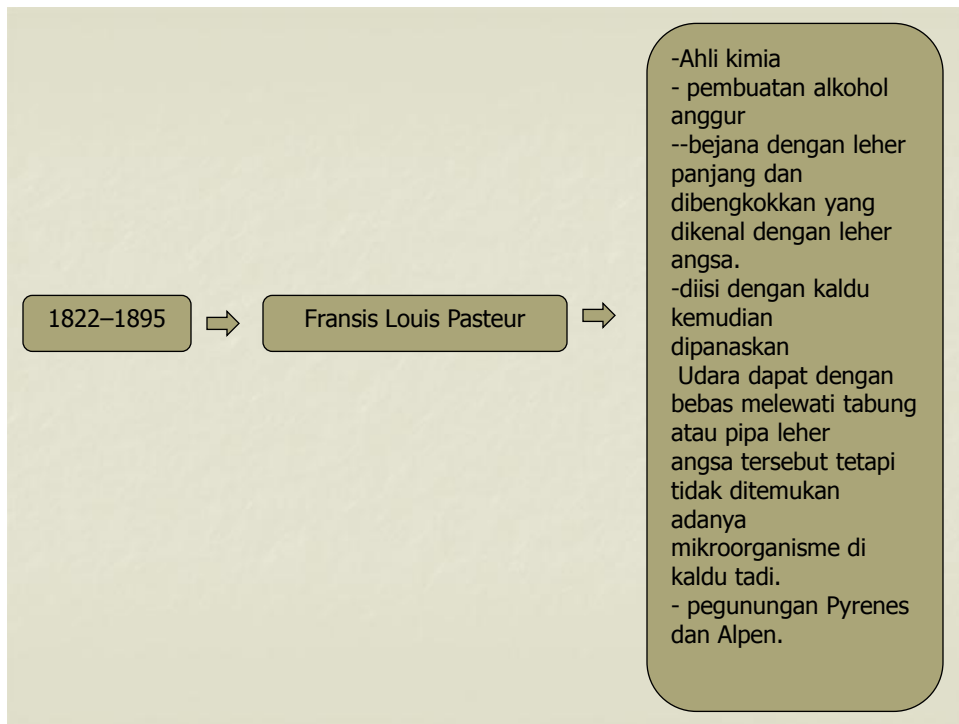


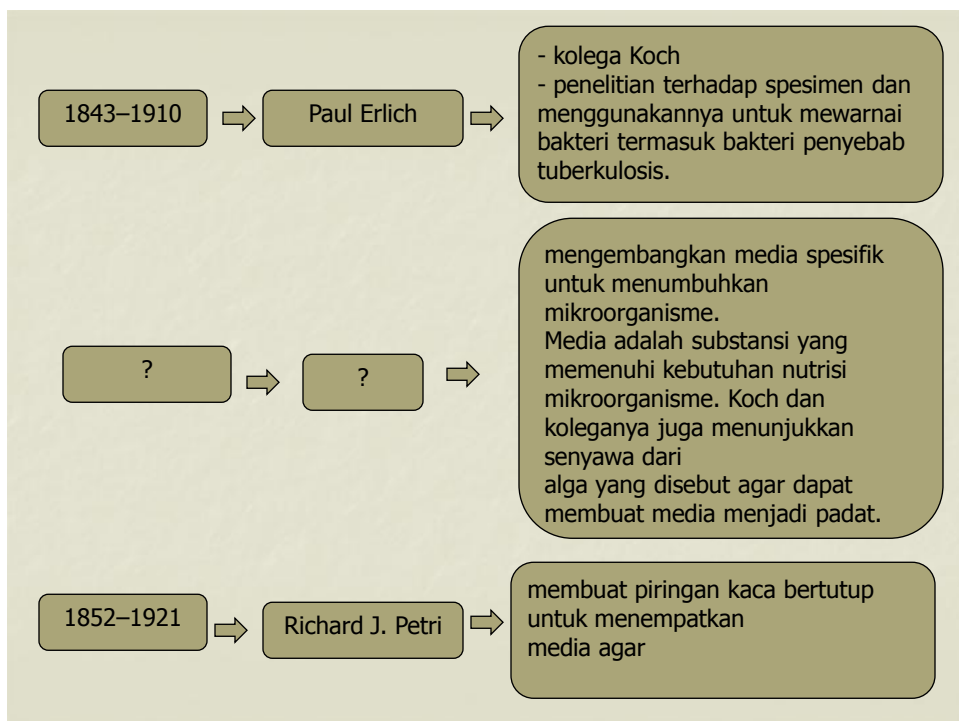
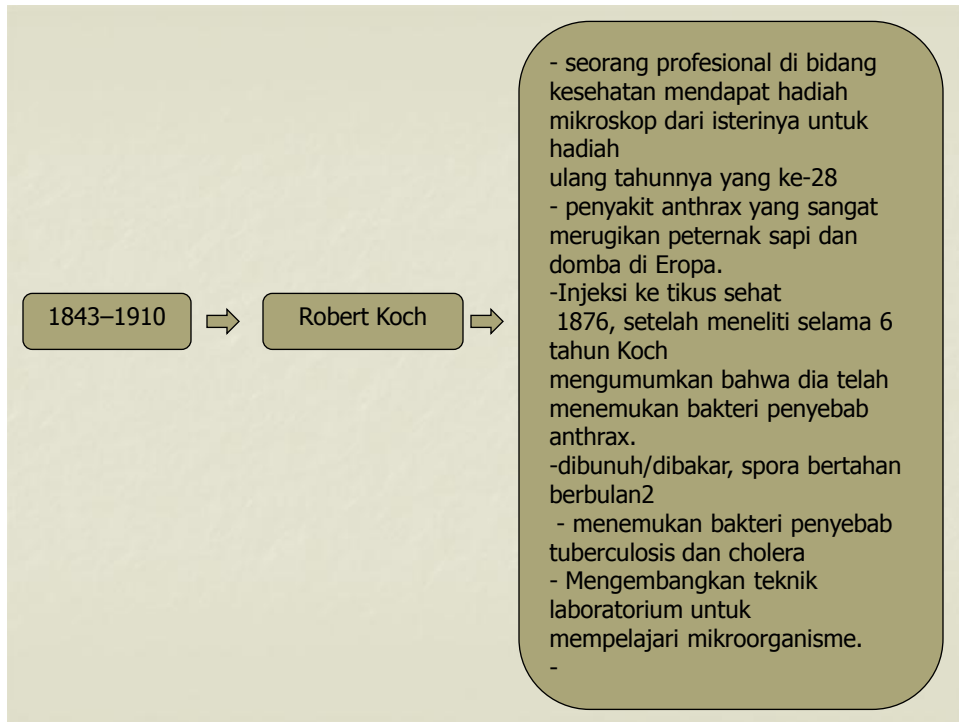
Antony van Leeuwenhoek



- Wine Tester di Delf, Holland.
- mengamati air sungai, air hujan, feses
- animalcule
- menumpuk lensa di lempengan perak
- 250 mikroskop yang mampu memperbesar 200–300 kali
- British Royal Society*.
- protozoa
- bentuk batang, kokus maupun spiral yang sekarang dikenal dengan bakteri.
- Memunculkan perdebatan=abiogenes is dan biogenesis







## Postulat Koch (1880)

1. Mikroorganisme tertentu selalu ditemukan berasosiasi dengan penyakit yang ditimbulkan.
2. Mikroorganisme dapat diisolasi dan ditumbuhkan sebagai biakan murni di laboratorium
3. Biakan murni tersebut bila diinjeksikan pada hewan yang sesuai dapat menimbulkan penyakit
4. Mikroorganisme tersebut dapat diisolasi kembali dari hewan yang telah terinfeksi tersebut

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## Tugas...

- 1)...