Lecture 4 Study Guide (video: 56 minutes)

Study Questions

1. Rhizobium is an obligate plant parasite. Is it also a plant pathogen?

2. What are the cellular characteristics of the members of the kingdom Monera?

3. (All, many, none) of the plant pathogenic bacteria are spore formers. Why is this important to know?

4. What are plasmids and how can they enhance the ability of bacteria to survive in a constantly changing environment?

5. What are the three most common genera of necrosis-inducing bacteria, and what types of necrosis symptoms are likely to be involved? (List at least two.)

6. Which two different groups of plant pathogenic bacteria reside exclusively within certain vascular tissues of plants? (One of them typically induces non-lethal, virus-like symptoms.) Which vascular tissues are involved, and how are these agents transmitted?

7. What is a pathovar and how is this term helpful in bacterial nomenclature?

8. What two genera of plant parasitic bacteria cause galls?

9. What natural openings of plants are common points of entry for phytopathogenic bacteria? (List at least three.)

10. What types of chemicals are used (with mixed results) to control plant pathogenic bacteria? What is "symptom remission"?

Key Words

Agrobacterium
Antibiotics (as bactericides)
Archebacteria
bacilliform morphology
Blights
Cell membrane (lipid)
Cell wall
Chromosome (bacterial)
Clavibacter
Coconut lethal yellowing disease (phytoplasma-induced)
Copper compounds (as bactericides)
Erwinia

Eubacteria
Flagellum (-a)
Gall (esp. Agrobacterium, Rhizobium)
Hydathodes (natural openings)
Injury
Midgut (of suctoral insects)
Mollicute
Nectaries (natural openings)
Ooze (signs)
Pathovar (pv.)
Phytoplasma (phloem restricted)
Pierce's disease (Xylella-induced)
Plasmid exchange
Plasmids
Pleomorphic morphology
Prokaryotes (Kingdom Monera)
Pseudomonas
Rhizobium
Rots
Salivary glands (of suctoral insects)
Seed transmission (of bacteria)
Spherical morphology
spiral morphology
Spiroplasma
Spore formers (bacteria)
Spots
Stomata (natural opening)
Stylet (of suctoral insects)
Suctoral insects (esp. leafhoppers)
Symptom remission (phytoplasma)
Tetracycline antibiotics (to control phytoplasmas)
Wilt
Witches' broom (phytoplasm)
Xanthomonas
Xylella (xylem restricted)
Yellows (phytoplasm)