

## Development of Disease

### Disease Cycle

Sequence of events involved in disease including appearance, development, perpetuation, and survival of the pathogen

### Pathogenesis

Events that occur in the disease cycle from infection to final host reaction

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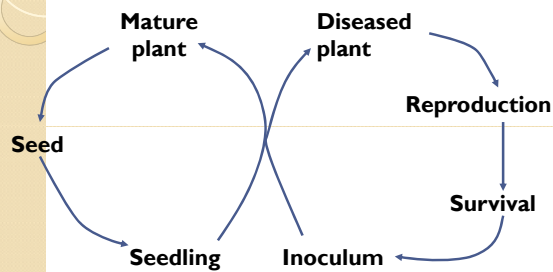
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## Disease Cycle



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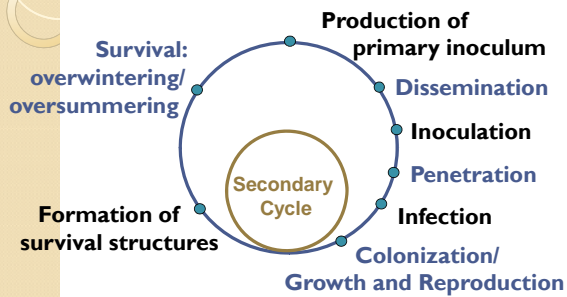
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## The Generalized Disease Cycle



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## Stages in the Disease Cycle

1. Production of *inoculum*
  - primary inoculum
  - secondary inoculum
2. *Dissemination*
  - humans, water, wind, vectors
3. *Inoculation*
4. *Penetration*
  - direct, indirect, wounds

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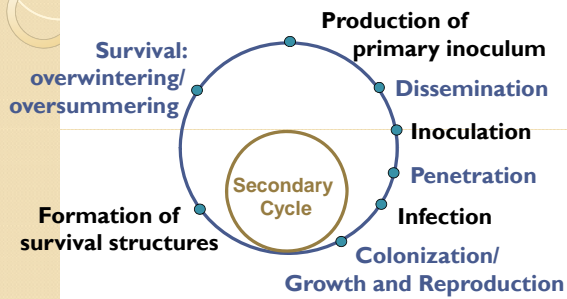
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## The Generalized Disease Cycle



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## Stages in the Disease Cycle

5. *Infection*
  - local vs. systemic
  - infection court
  - incubation period
  - latent infection
6. Colonization/Growth and Reproduction
7. Formation of survival structures
8. Survival
  - overwintering or oversummering

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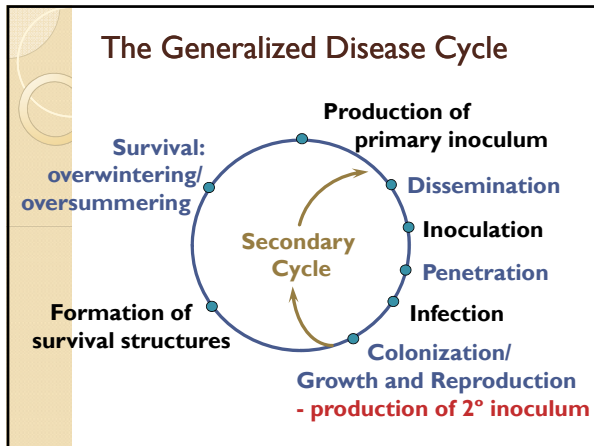
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### Types of Disease Cycles

Primary inoculum only  
 → Single-cycle diseases = Simple interest

Primary & secondary inoculum  
 → Multiple-cycle diseases = Compound interest

Multiple-cycle diseases have greater potential for damage than single-cycle diseases

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