

Cover Crop Effects on Soil Quality

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Soil is a habitat

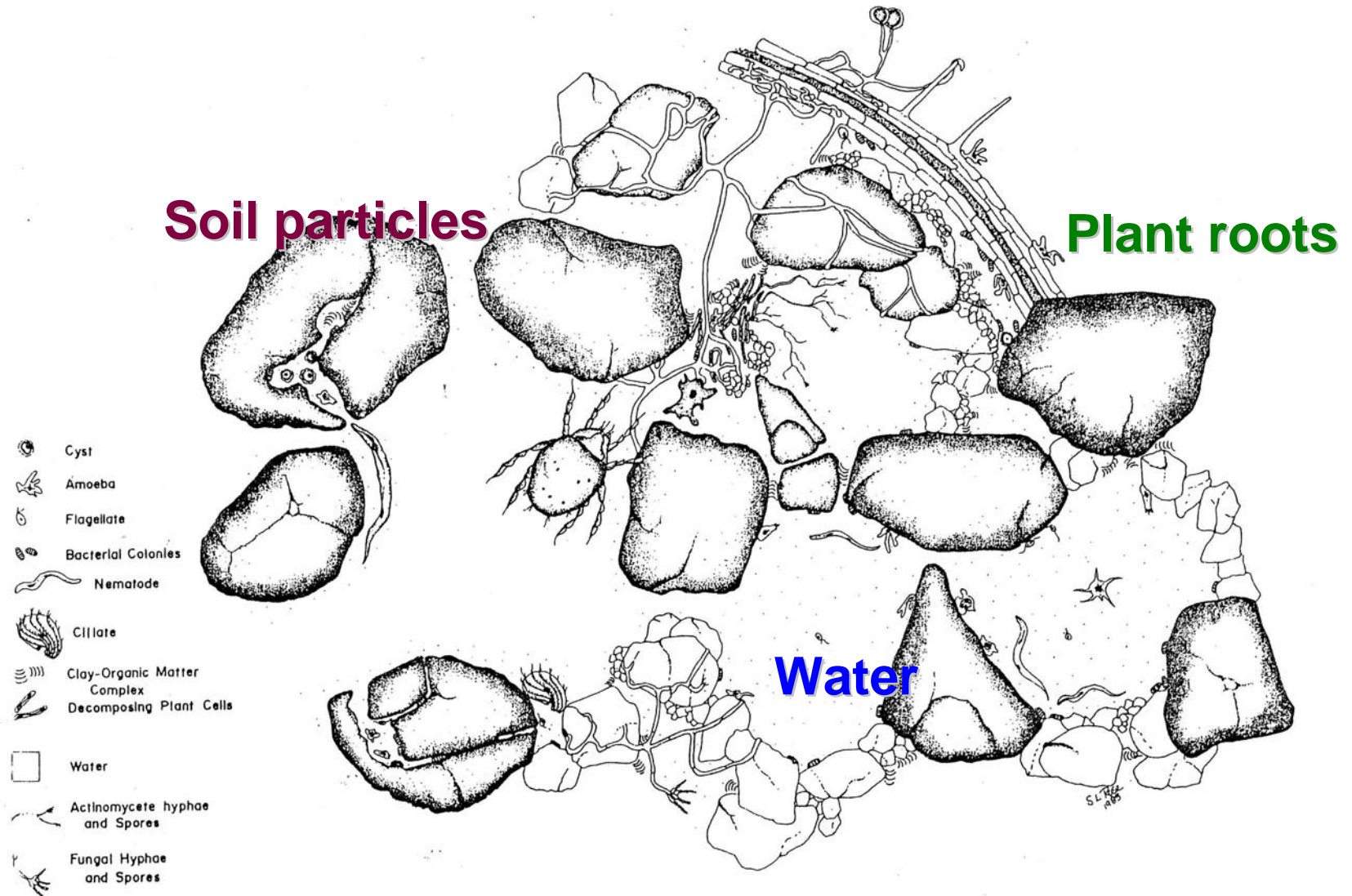


Figure 5.2. Trophic relationships among different groups of soil organisms are controlled by accessibility to their resources. This illustration represents approximately 1 cm² of a highly structured microzone in the surface horizon of a grassland soil. Courtesy of S. Beer and T. Elliott, personal communication.

Soil Quality Is the Capacity of Soil:

- To sustain plant and animal productivity,
 - To maintain or enhance water or air quality,
 - To support human health and habitation over time.
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- Karlen et al. 1997. Soil Sci. Soc. Am. J. 61:4-10.

Soil Quality Indicators

- Does the soil have good structure/aggregate stability ?
- Does water infiltrate quickly?
- Is the soil free of compacted layers?
- Does the soil store plant available water?
- Is plant residue present and decomposing?
- Do plant roots grow well?
- Are earthworms abundant in the soil?
- Is the soil full of living organisms?

Managing for Soil Quality

- Add organic matter
- Avoid excess tillage
- Prevent soil compaction
- Keep the ground covered
- Diversify cropping systems
- Carefully manage fertilizer and pesticide use