VERITERRA LAB

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Quick Soil Biology Assessment

Report Performed By:
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Client:
Name:
Organization:
Phone:
Email:

Sample name: Zone 2
Sample type: Soil
Plant desired: Corn
Plant Succession: Pastures/Row crops

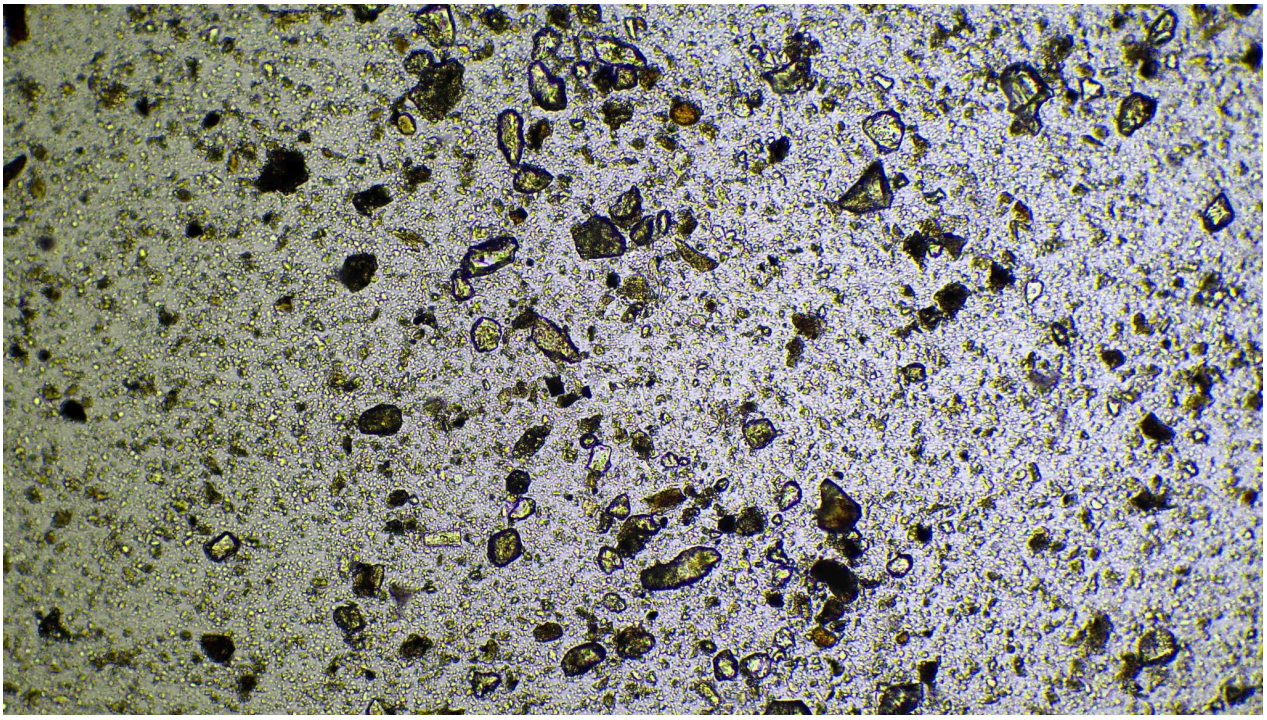
Sample collected: 01/30/2023
Sample observed: 01/31/2023
Observed by: Vera Dorzhinova

Present:
Bacteria, Fungi (low), Protozoa (low), Oomycetes
Missing:
Nematodes

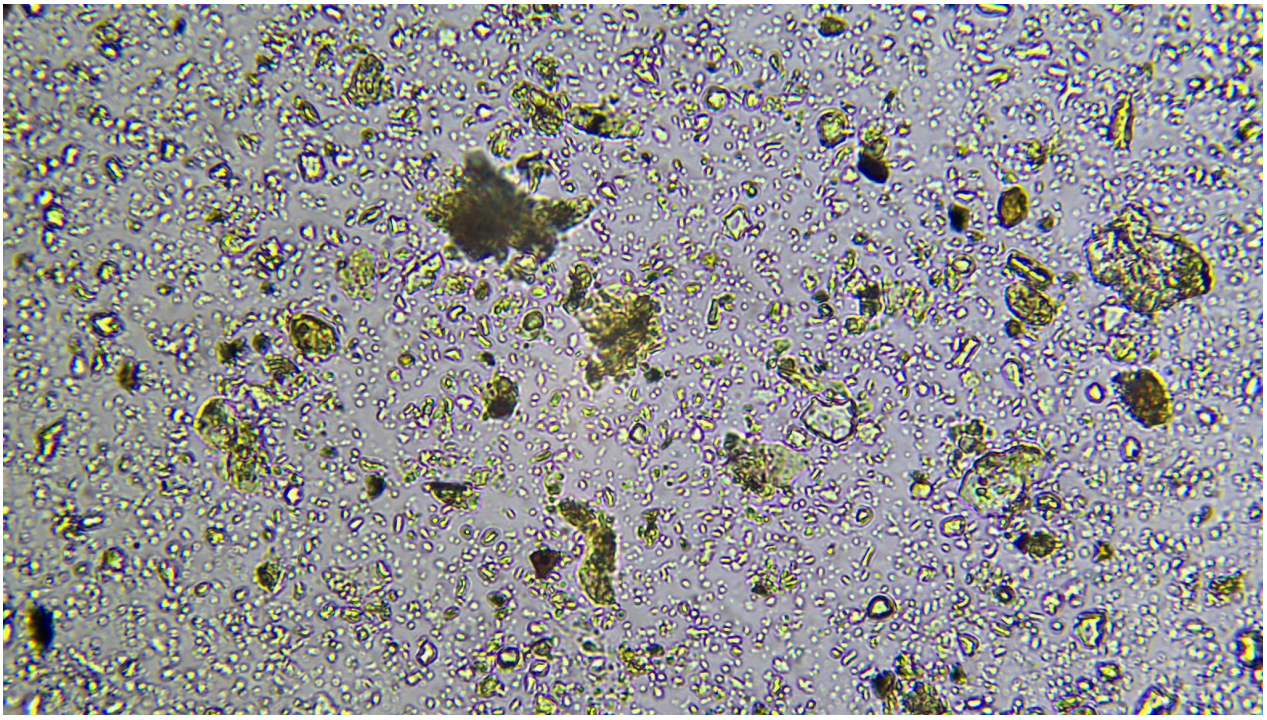
Visual assessment: The moisture of the sample was about 40-45% (squeeze test). Grayish dark brown color. Clumps present. Some woody materials, roots, plants. No anaerobic odors.

Microscope Assessment: Mostly mineral particles, some organic matter. Poor aggregation. **Bacteria**: low diversity - mostly cocci were observed. No signs of human pathogens. **Fungi**: very low amount of fungal strands were found. **Oomycetes (potential plant pathogens) -** insignificant amount. **Predators (enchance nutrient cycling)**: Nematodes - none observed; Protozoa - no testate amoebae, insignificant amount of flagellates (1), also nsignificant amount of ciliates (1) that can indicate reduced or factuating oxygen conditions. See pictures & additional comments below.

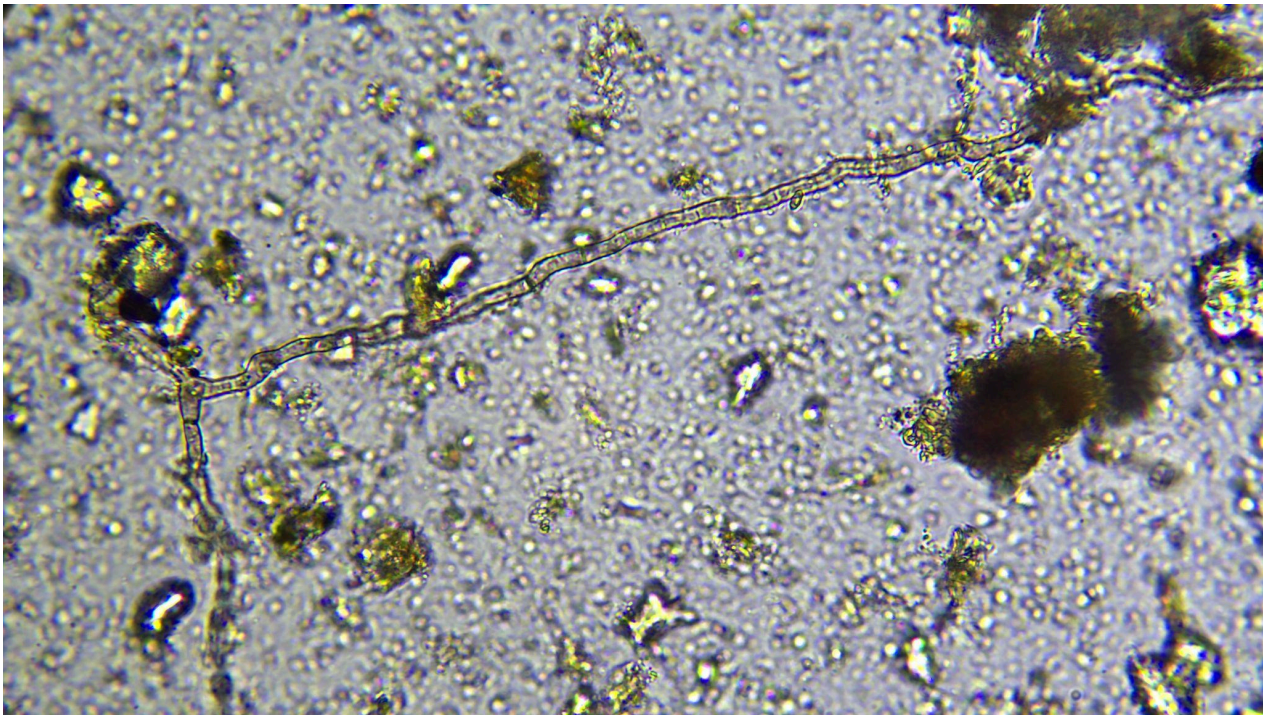
Low aggregation 100X Mag



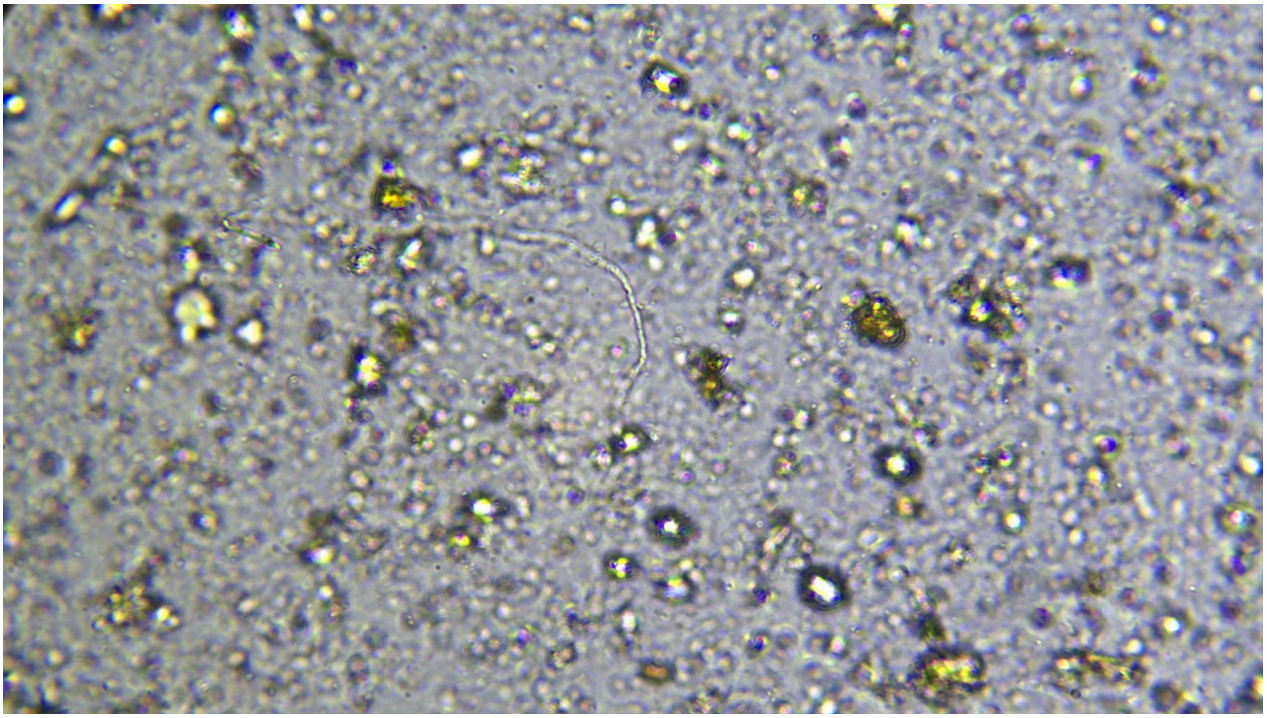
Typical Field of View at 400X Mag - bacteria only



Beneficial fungus 400X Mag



Oomycete, 400X Mag



Additional comments: Important functional groups are lacking/extremely low in numbers: fungi that mine soil nutrients, help build soil structure and humus and perform other critical functions; predators (protozoa & nematodes) that can boost plant growth by excreting plant-available nutrients after consuming bacteria and fungi and provide other beneficial effects on plants and soil. Low amounts of fungi and predators indicate the stage of succession called “Weeds”, meaning that biological and chemical properties of soil are conducive for weeds which are adapted to poor soils. To grow higher successional plants like corn (without external inputs like fertilisers, herbicides and pesticides) the amount and diversity of all functional groups (bacteria, fungi, protozoa, nematodes) should be increased by using bio-complete compost/extract/tea or other available methods.