Soil microbial community in Kambja vegetation filter

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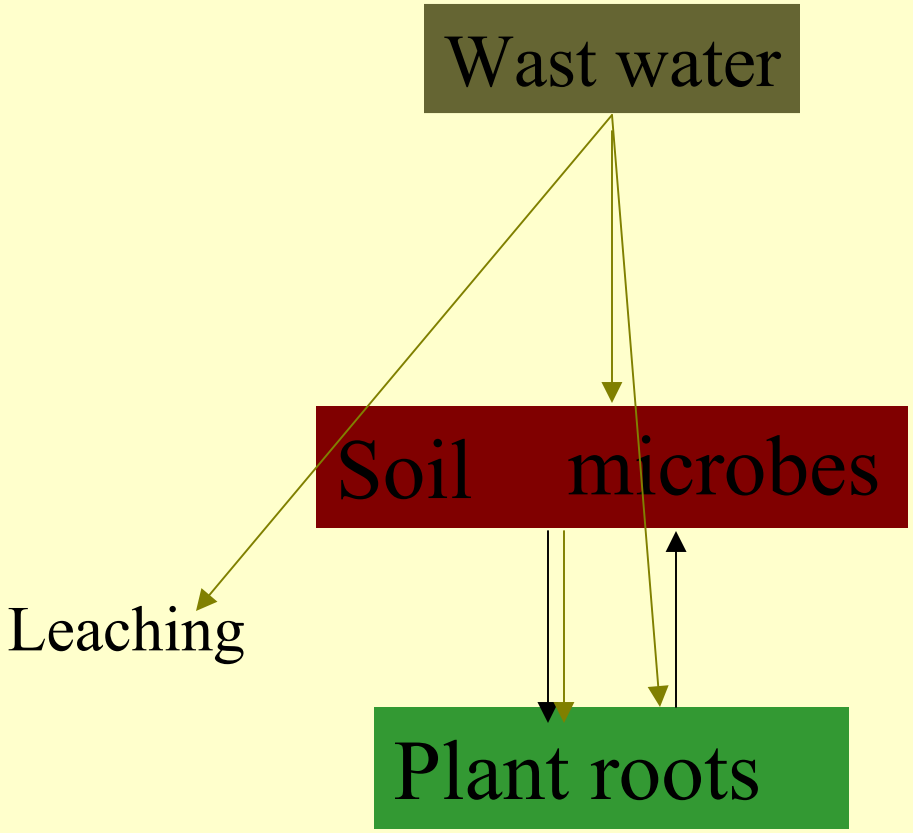
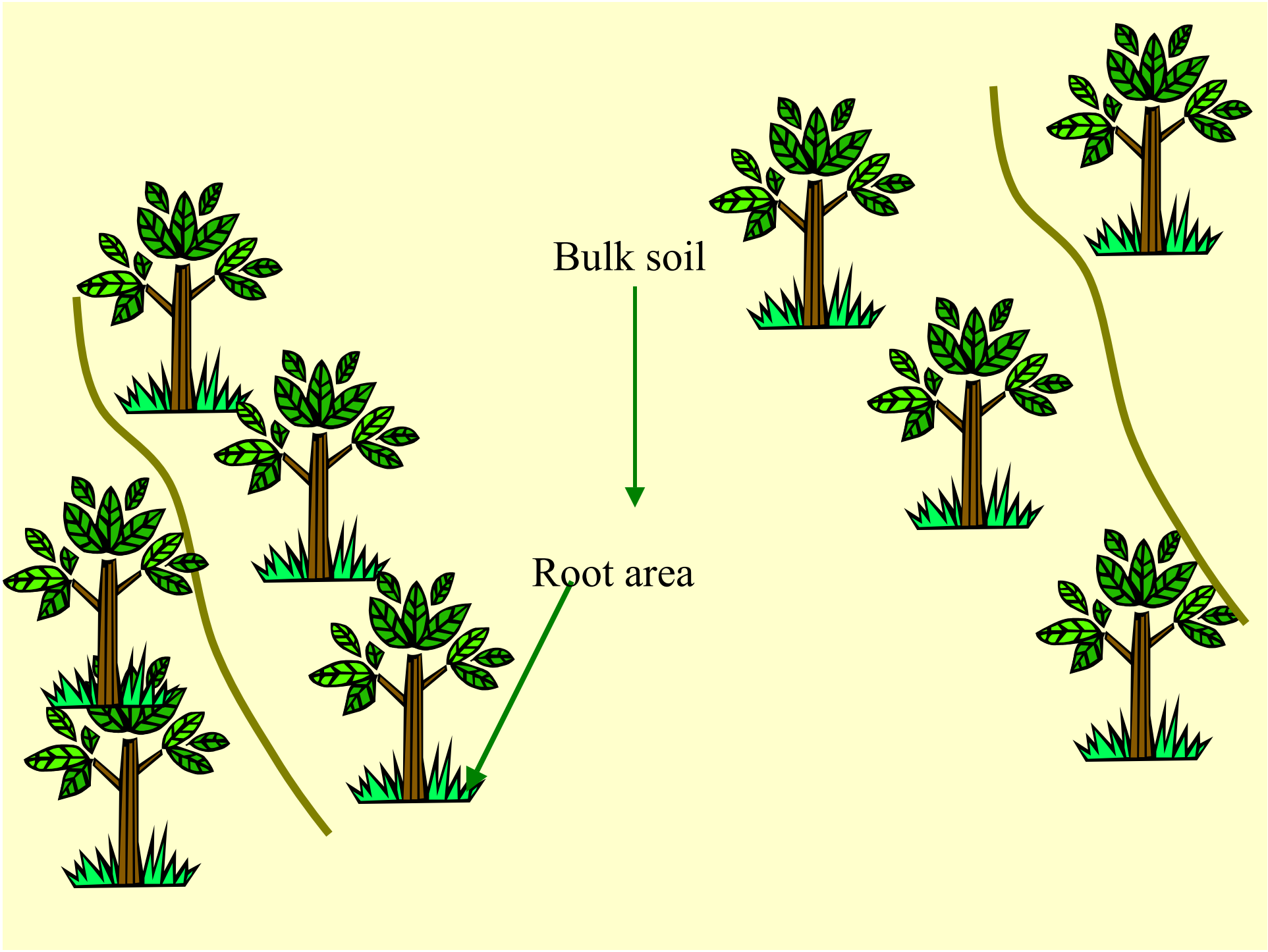

Wast water
Soil microbes
Leaching
Plant roots

Sampling

Field 15 ha:

- 8 sample areas
- 2 control areas


Bulk soil
Root area

Sampling

- From 0 -10 cm layer
- 1 samling area and 1 control area:

0-10 cm

10-20 cm

20-30 cm

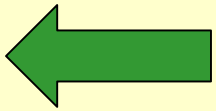
Composite sample

Chemical analyses:
Tot C,N and K
Anorganic P
pH

Microbiological and biochemical analyses

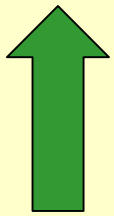
Soil microbial biomass is the eye of neadle through which all organic matter needs to pass through (Jenkinsen et al., 1987).

- Total microbial biomass C
- Microbial N
- Microbial P



Fumigation-extraction method

Metabolically active biomass C



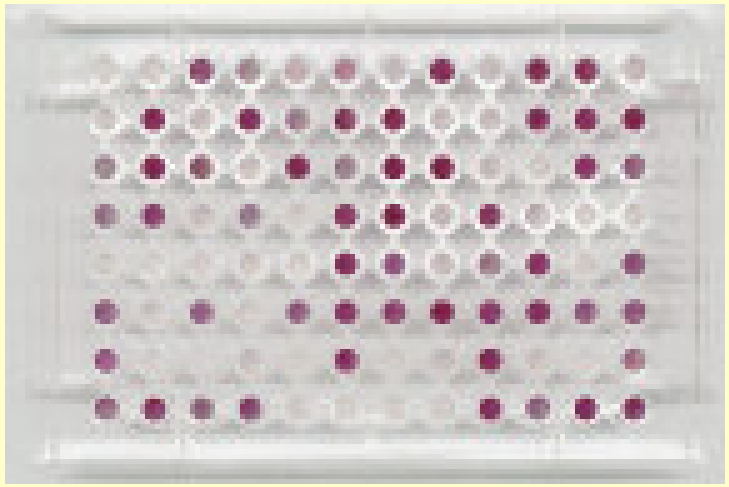
Substrate induced respiration(SIR)

Activities

- Microbial respiration
- Metabolic quotient qCO2
- N-mineralization
- Potential nitrification
- Alkaline and acide phosphomonoesterase activities

Community level metabolic profile

Biolog Eco microplates



Activity

Shannon index

Results

Parameter	Root area	**Between rows**	
SIR	0.26±0.06	0.23±0.07	P<0.05
N-mineralization	1.42±0.56	1.32±0.56	P<0.001
Alkaline phosphatase	16.2±6.6	25.6±9.1	P<0.05
Biolog activity	9.95±3.56	7.30±1.54	P<0.05
Shannon index	4.1±0.2	4.0±0.1	P<0.05

Results

- The biggest microbial biomass C and N content appared in all samples in 10-20 cm layer.

Future

- Next sampling time
- Autumn 2005

Thank you!